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A case of pseudohyperkalemia secondary to reactive thrombocytosis

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Case history

- We present the case of a 71-year-old man who was admitted at the surgical ward for an elective total pancreatectomy for pancreatic cancer.
- His past medical history was significant for hypertension on ramipril 5 mg once daily.
- Post pancreatectomy he developed type 3c diabetes which was managed on basal-bolus insulin regime with NovoRapid and Tresiba.

Investigations

- Blood tests showed elevate serum potassium concentrations ranging from 5.5-6.3 mmol/L on repeat venipunctures
- Notably, platelet count was elevated, ranging from 551-724 x109/L.
- Random cortisol was 464 nmol/L.
- Venous blood gases consistently demonstrated normal potassium concentrations.

Results

- A diagnosis of pseudohyperkalemia secondary to thrombocytosis in the context of intra-abdominal surgery was made.
- Pseudohyperkalemia persisted after discontinuation of ramipril and low-molecular weight heparin and while the patient followed a low-potassium diet off parenteral nutrition and only resolved with resolution of thrombocytosis with resolution of inflammatory markers

Discussion and conclusions

- Causes of pseudohyperkalemia include mechanical factors leading to haemolysis (traumatic venipuncture), ethanol containing antiseptics, cold temperatures (seasonal pseudo hyperkalaemia), contamination with potassium containing intravenous fluids, factitious hyperkalaemia in the context of leukaemia due to increased white cell membrane fragility, polycythaemia, thrombocytosis and rare familial autosomal dominant cases.
- Thrombocytosis can lead to increased release of potassium during the clotting process with an average increase of 0.82 mmol/L.
- Potassium elevation is usually not directly proportional to the degree of observed thrombocytosis.
- Prompt recognition of pseudohyperkalemia by collecting a venous blood gas is key to avoid inappropriate administration of agents that pharmacologically lower plasma potassium as this can potentially lead to life-threatening hypokalaemia.

References

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London North West Healthcare NHS
NHS Trust

Exponentially Elevated Testosterone in a Middle-Aged Woman with Polycystic Ovarian Syndrome: A Therapeutic Response to Luteinizing Hormone-Releasing Hormone Agonist

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Case Presentation:

- We report a case of a 43-year-old lady referred by her GP with five months history of amenorrhea and elevated testosterone of 14.3 nmol/L (normal 0.0-1.9 nmol/L).
- She had two children aged 15 years and 17 years-old.
- Her past medical history includes hypothyroidism and she was on levothyroxine.
- On examination she weighed 153 kg with a body mass index (BMI) of 54 kg/m^2.

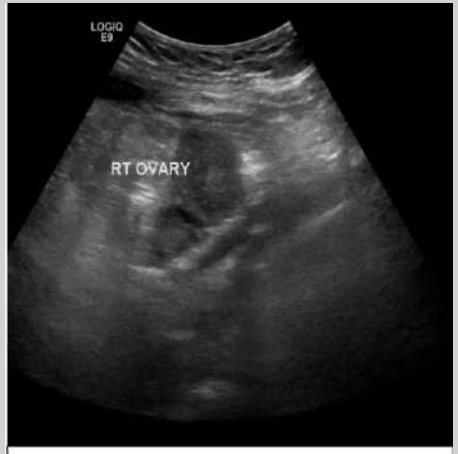


Figure 1 shows normal right ovary

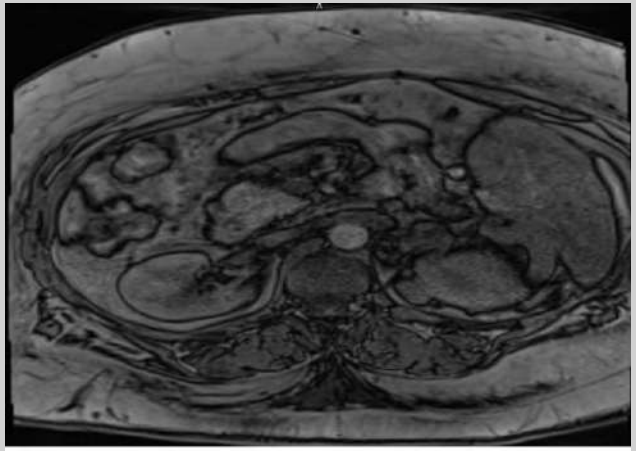
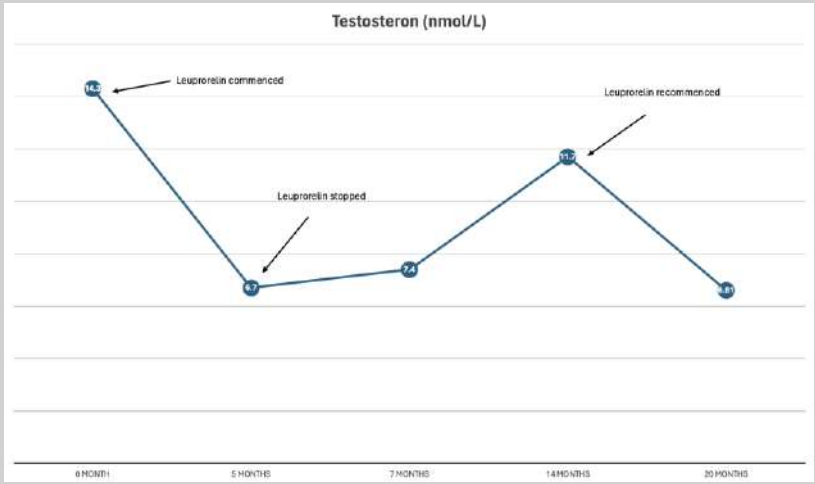


Figure 3 shows normal adrenals



Investigations:

- Testosterone was elevated as 14.3 nmol/L.
- Thyroid profile, prolactin, cortisol, 17 - hydroxyprogesterone, LH, FSH and DHEA were all normal.
- Computer tomography (CT) scan of abdomen incidentally showed portal vein thrombosis.
- Ultrasound pelvis (figure 1 &2) and magnetic resonance imaging (MRI) adrenals (figure 3) did not reveal any abnormalities.

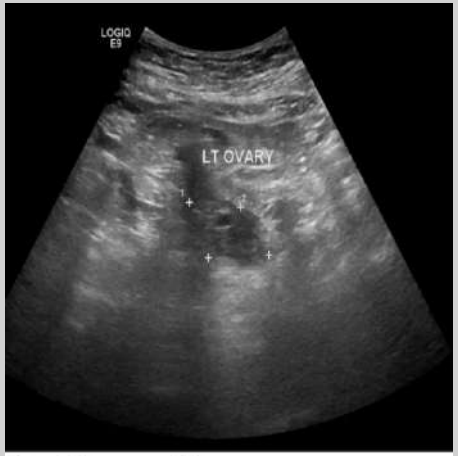


Figure 2 shows normal left ovary

Treatment:

- Subcutaneous once a month Leuprorelin was commenced, which is a LHRH agonist usually used in patients with prostate cancer to lower the testosterone[1,2].
- There was a significant decrease in serum testosterone levels from 14.3 nmol/L to 6.7 nmol/L.
- Notable reduction in testosterone levels was noted.
- Upon discontinuation of Leuprorelin, testosterone levels began to rise again to 11 nmol/L.

Conclusion

- Polycystic ovarian syndrome (PCOS) was diagnosed as per the Rotterdam criteria[3]. and other causes of elevated testosterone were ruled out.
- Testosterone levels exceeding 6 nmol/L in women, as in our patient, may suggest other conditions like adrenal or ovarian tumors, warranting further investigation for accurate diagnosis[4].
- This case highlights the efficacy of Leuprorelin in the management of hyperandrogenism.
- Further research is warranted to elucidate the long-term effects as there is limited data to suggest its use for hyperandrogenism in PCOS.

References:

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NHS
The Dudley Group
NHS Foundation Trust

Evolving Respiratory Virtual Ward (MDT approach) can prevent hundreds of hospital admissions and improve the quality of life of patients with chronic respiratory diseases

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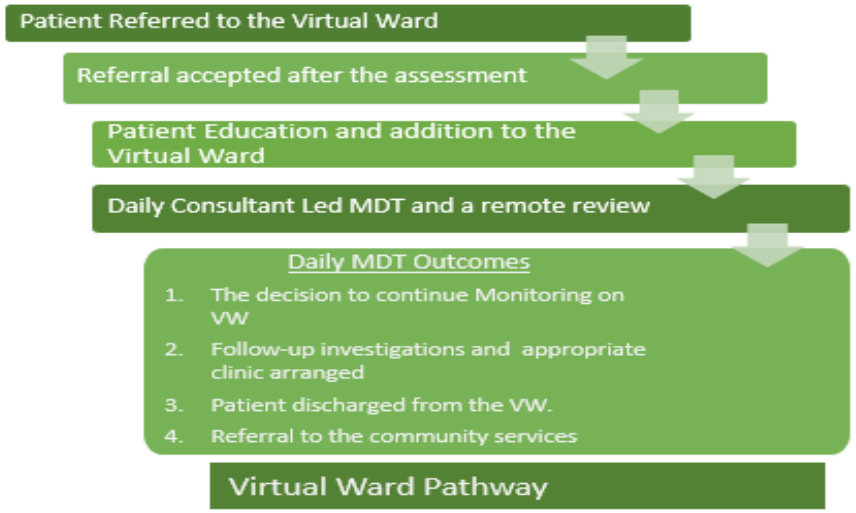
Background:

Even though the concept of virtual wards has existed for some time, it was not until the recent pandemic that, the use of virtual wards has expanded with an apparent good effect to manage selected patients with COVID-19 using a pulse oximeter and monitoring through secondary care. (1)

Respiratory Virtual wards are an area of rapid development within the NHS and the respiratory department at our regional centre has taken this opportunity and evolve the respiratory virtual ward service with daily senior clinical input, virtual ward MDT meeting, integration of adult community respiratory service and utilising innovative monitoring devices to deliver high-quality care safely and conveniently for people at home.

The primary aim of this study was to ascertain whether evolving respiratory virtual ward services would result in a significant positive impact on the care of people living with long-term lung diseases.

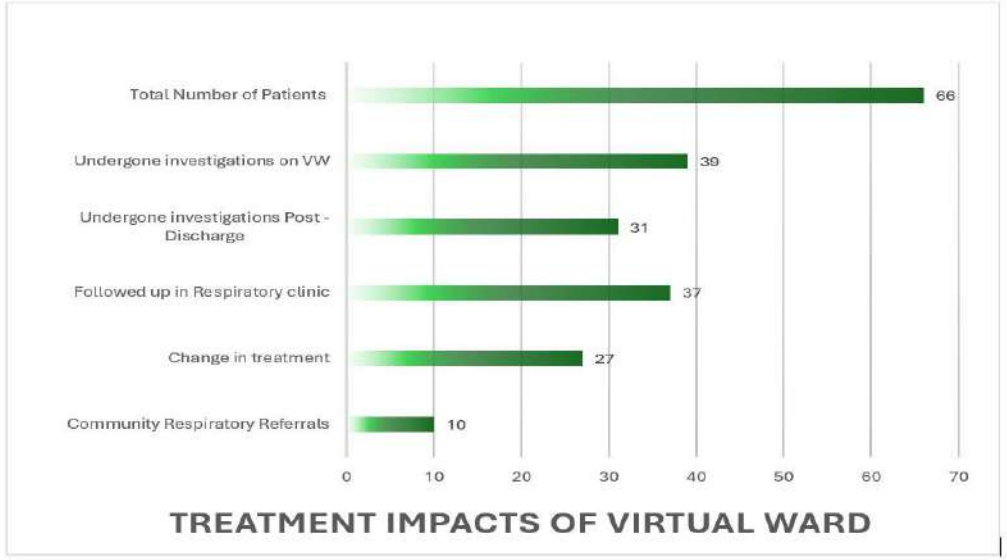


Methods:

The patients were referred to the Respiratory virtual ward from a variety of clinical teams including Emergency Departments, GPs, community services, and hospital wards. We monitored the activity of our virtual ward retrospectively from July 2023 to October 2023.

Results and discussion:

A total number of 66 patients were included in the study spanning from July 2023 to October 2023. During their stay in the virtual ward, 39 Patients underwent investigations such as bloods, CXR and CT Thorax. Further investigations such as spirometry, CT thorax, chest x-ray etc were arranged for 31 patients when discharged from the virtual ward. Out of 66 patients, 37 were referred to relevant outpatient sub-speciality clinics. 10 patients were referred to community team. 27 Patients had a change in their management plans after the clinic review.



Conclusion:

This study confirms that evolving the respiratory virtual ward services with daily senior clinical input can improve the treatment and support for patients with respiratory diseases, deliver the commitments outlined in the NHS Respiratory Disease Long-term Plan, and prevent hundreds of hospital admissions.

This innovative approach is delivering high-quality care, safely and conveniently for people at home – where they would rather be, albeit it is an evolving process and there is still room for much improvement.

REFERENCES:

1) NHS. Virtual wards https://transform.england.nhs.uk

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Marantic Endocarditis and Stroke: A Case Presentation

Case Summary

A 52 year old man presented with right sided facial droop, dysarthria and right arm weakness. CT imaging identified a left middle cerebral artery occlusion, for which the patient underwent thrombolysis. Post-thrombolysis CT imaging demonstrated a small intracranial haemorrhage, and therefore the patient remained on aspirin until outpatient review. Routine stroke work-up investigations were unremarkable (Figure 1).

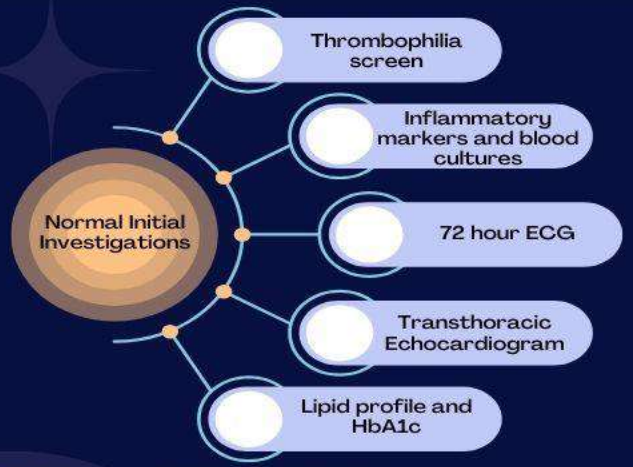

FIGURE 1: Summary of initial investigations

Despite antiplatelet therapy, the patient went on to have further ischaemic strokes within days, with radiological suggestion of an embolic focus. Bubble and transoesophageal echocardiography revealed an aortic valve mass, for which the multidisciplinary team recommended anticoagulation with warfarin.

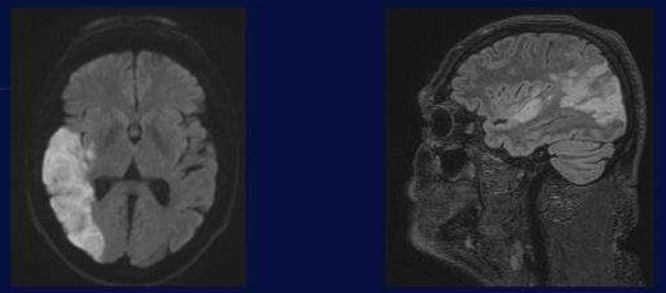

FIGURE 2: Post-warfarin loading MRI Brain

Shortly after warfarin loading started, the patient developed haemorrhagic transformation of the existing strokes (Figure 2). A risk and benefit analysis was presented to the patient, following which all anticoagulation was discontinued.

CT imaging identified a pancreatic lesion and hepatic deposits, biopsy of which confirmed a pancreatic primary malignancy (Figure 3).

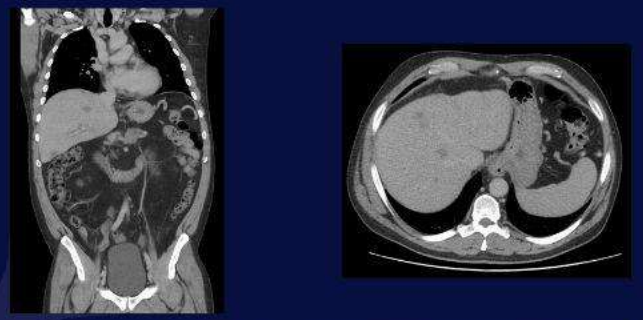

FIGURE 3: CT Abdomen and Pelvis - metastatic pancreatic cancer

Tumour marker CA 19-9 was sent, which came back as >60,000kU/L. The patient had a further acute stroke, with a much more disabling hemiparesis. They were managed under the palliative care team, and died from complications of an acute ischaemic limb approximately two months after their first presentation.

Discussion

This case highlights the importance of considering investigations for malignancy in younger patients who present with stroke of unclear aetiology, and those who have few risk factors for ischaemia. We should consider detailed cardiac imaging to investigate for marantic endocarditis – also known as non-bacterial thrombotic endocarditis. The pathophysiology behind cancer related stroke relates mainly to hypercoagulability, and neuroimaging tends to demonstrate multifocal ischaemia in different arterial territories. A comprehensive approach to the evaluation of the stroke, including thorough history and examination, as well as investigation for malignancy with tumour markers and imaging should be considered.

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SAVARAPU, P ET AL, 2021. CANCER-RELATED NON-BACTERIAL THROMBOTIC ENDOCARDITIS PRESENTING AS ACUTE ISCHEMIC STROKE. CUREUS, 13(5).

Hereditary TTP In Pregnant Saudi Lady With Family History Of TTP

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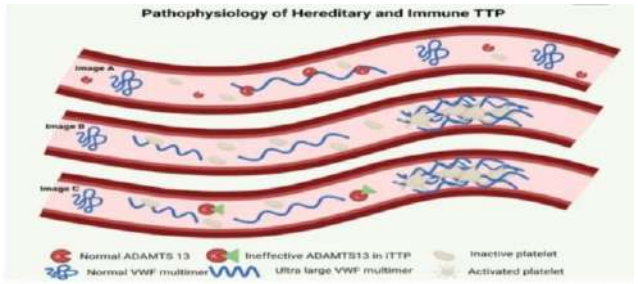
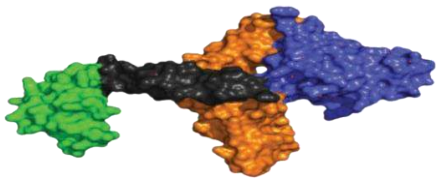
We are reporting a case of Hereditary TTP in a 26-year-old pregnant Saudi woman with a family history of the condition.



Introduction

Hereditary Thrombotic Thrombocytopenic Purpura (HTTP) is a rare life-threatening haematological disorder caused by mutations in ADAMTS13 gene, leading to microthrombi formation and organ damage.(1,2)



Case Presentation

26 years old primigravida (15 weeks) presented to ER with ecchymotic patches in bilateral forearms thighs for 1week.

Family history: 2 sisters diagnosed with TTP, one died at age of 23 years while she was pregnant.
Examination: afebrile, no focal neurological deficits, there were purpuric eruptions and eechymotic patches on both forearms and anterior aspects of both thighs.
Lab: thrombocytopenia Platelets :21 × 109/L, picture of hemolytic anemia (Hemoglobin 9.5 g/dl, indirect bilirubin 1.10mg/dl, lactate dehydrogenase 643U/L, reticulocyte count5.1%, haptoglobin2 mg/dL, Direct anti globulin (DAT) negative. peripheral blood smear showed fragmented RBCs (4%).

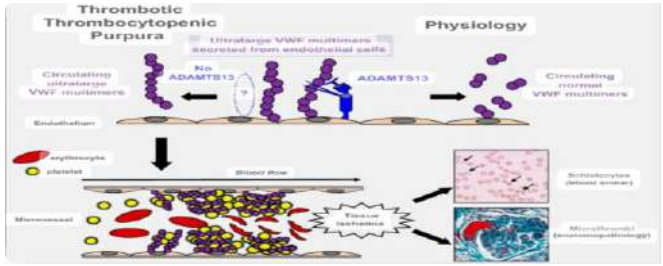
Management: -Plasmapheresis (total of 4 session) -methylprednisolone followed by prednisolone for 3 weeks. patient improved and platelet increase to 203, and discharged home

3weeks later: readmitted with sever thrombocytopenia and hemolytic anemia, complicated with pulmonary hemorrhage. she was transferred to tertiary Hospital where mechanically ventilated, and underwent total of 28 session of plasma exchange and pregnancy were terminated
she received pulse steroid and rituximab 2 doses, improved and discharged home

Genetic testing : ADAMTS 13 genes mutation was send and came positive for homozygote for ADAMTS 13 gene c.3070 T>G

Discussion

Hereditary TTP is an autosomal recessive with a rare gene frequency.
The expert's hematologist from GCC countries demonstrated that there are no reliable registry data regarding the incidence of TTP in GCC countries, they recommended to conduct a multicenter study to assess the real epidemiology of TTP in GCC countries(3)



Conclusion

With the limited Data from GCC country, this case report will help in conducting multicenter studies to assess the real epidemiology of TTP
in GCC countries, also emphasizes the need for a local registry to facilitate proper diagnosis and treatment.

Reference

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2. PubMed Abstract | CrossRef Full Text | Google Scholar3.Oman Med J. 2022 Jul; 37(4): e407. Published online 2022 Jul 31. doi: 10.5001/omj.2022.32PMCID: PMC9358329PMID: 35949714

Case Series Of Choledocholithiasis More Than 25 Years After Cholecystectomy

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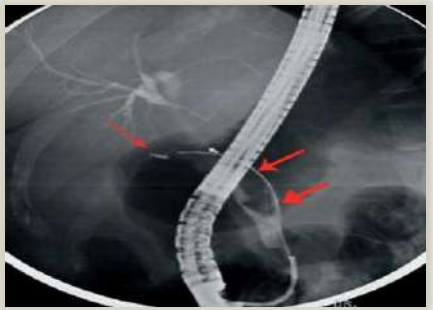
Introduction

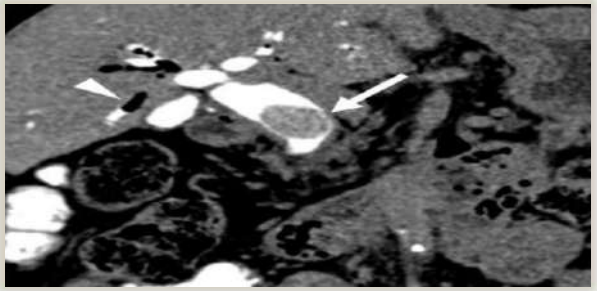
This is a case series of reported cases with Choledocholithiasis more than 25 years after cholecystectomy. We are reporting the first 3 cases and we compare them to the published case (case4)(1)



Discussion

Surgical clip migration and remnant cystic duct lithiasis (RCDL) has been widely reported as a cause for similar late post-cholecystectomy Choledocholithiasis.
The long cystic duct remnant noted during imaging further contributes to the possibility of RCDL, this would increase the area over which a remnant lithiasis may have been missed during the original operation.
However, primary stones of the CBD have also been reported and cannot be ruled out in this
case.

	CASE 1	CASE2	CASE3	CASE4
Age/gender	66Saudi males63Saudi female	63Saudi female	65Saudi female	57years African American female
comorbidity	DM, HTN, CKD	Hypothyroidism HTN dyslipidaemia		
presentation	RUQ abdominal pain Nausea vomiting	RUQ abdominal pain Nausea vomiting 0	RUQ abdominal pain Nausea vomiting	RUQ abdominal pain Nausea vomiting fever
TBili mg/dl	1.59	5.3	2.4	1.8
AST U/L	187	128	514	46
ALT U/L	114	164	379	128
WBC	9.2	5.3	13.5	
MRCP	Mildly dilated IHBR & hepatic ducts No pancreatic masses	Mild biliary dilatation with distal CBD filling likely stone		dilation of the CBD, small volume of fluid around the liver and the CBD suggestive of cholangitis
ERCP	dilated CBD with multiple stone and mud	dilated CBD inflated many time and mud come out	large CBD stone	Dilated CBD Sludge and stone fragment were removed



Conclusion

This case series highlights cases of choledocholithiasis emerging over 25 years following cholecystectomy

This extreme latency in presentation importantly highlights possibilities of post-cholecystectomy bile duct stones and the need to acknowledge the potential for such late presentations

References

M.MarinellaCholedocholithiasis causing obstructive jaundice 52 years after cholecystectomy
JAGS, 43 (11) (1995), pp. 1318-1319
CrossRefView Record in ScopusGoogle Scholar

An unexpected case of Cryoglobulinaemia vasculitis that presented as respiratory failure

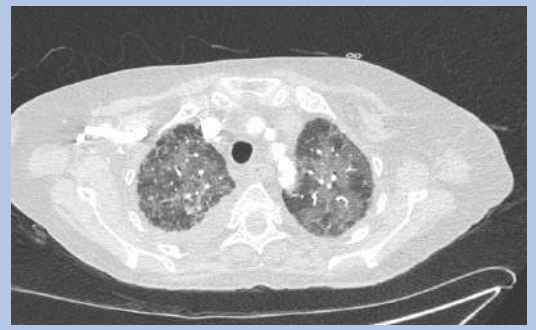
A.Javed[1], A.Fatima[2]

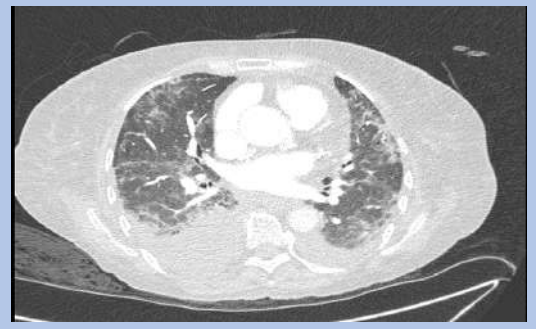
[1] Imperial College Healthcare NHS Trust, [2] London North West University Healthcare NHS Trust

Introduction

Cryoglobulinaemia vasculitis is a type of small vessel vasculitis caused by deposition of immune complexes with associated inflammation of the blood vessels. We report a case of severe manifestation of cryoglobulinaemic vasculitis with renal involvement and alveolar haemorrhages.

Figure 1: Axial CT chest





Case Report

A 66-year-old lady presented with a widespread petechial rash associated with high grade fever, sore throat, and arthralgia. The rash was distributed over her elbows, legs, and ankles.

Her initial presentation was in septic shock that required fluid resuscitation and intravenous antibiotics. Blood tests revealed raised inflammatory markers alongside elevated D-Dimer and pro-BNP. The chest X-ray demonstrated right sided opacification. A CTPA was negative for pulmonary embolism but confirmed bilateral pleural effusions. She was treated as sepsis secondary to community acquired pneumonia.

An autoimmune screen was requested due to concerns about vasculitis rash. A low dose prednisolone 20 mg was subsequently started following Rheumatology review.

She developed acute respiratory deterioration and generalised fluid overload. The blood tests showed worsening renal function and hypoalbuminaemia. Furthermore, a repeat CT Chest revealed widespread ground glass opacifications in keeping with alveolar haemorrhages.

Subsequently, the autoimmune panel showed low C4 complement levels with normal C3. The cryoglobulinaemia screen was positive for Type II IgM cryoglobulinaemia.

She was transferred to intensive care unit and required intubation and ventilation. The case was discussed with the tertiary centre with plan for transfer for plasma exchange and Rituximab. Unfortunately, she developed multiorgan failure and passed away before receiving further treatment.

Case Discussion

Cryoglobulinaemia vasculitis is an immune mediated inflammation of small and medium size blood vessels secondary to deposition of abnormal proteins called cryoglobulin. These immunoglobulins aggregate within the blood vessel and activate immune mediated pathways which contribute to inflammation.

Cryoglobulinaemia vasculitis usually occurs secondary to other diseases. Cryoglobulinaemia is classified into three groups depending on the type of Immunoglobulins.

The management of Cryoglobulinaemia vasculitis is guided by the underlying aetiology of disease, the severity of condition and associated organ involvement. Furthermore, immunosuppression with Rituximab or cyclophosphamide reduces risk of relapse.

The case represents severe manifestations of cryoglobulinaemia vasculitis with associated pulmonary haemorrhages and possible progressive glomerulonephritis.

Conclusion

Cryoglobulinaemia vasculitis is a debilitating condition with recurrent relapses and high mortality rate. It is also associated with increased risk of complications and requires multidisciplinary team approach to manage the condition effectively.

Digital case discussion provides effective education on anti-microbial resistance in low- and middle-income countries.

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*Croydon University Hospital, UK; MedShr Ltd, UK

Background

Antimicrobial resistance (AMR) is one of the greatest threats to global health according to the WHO, and has substantial economic implications particularly in low and middle-income countries (LMICs). It is estimated that in 2019, 4.95 million deaths globally were associated with bacterial AMR, with the greatest burden borne by countries in the sub-Saharan region.

Methods

This 6 month program used MedShr's clinical case discussion network to deliver education on AMR and anti-microbial stewardship (AMS) to healthcare professionals (HCPs) in LMICs. MedShr connects over 2.5 million doctors and HCPs globally through case discussion and peer-to-peer learning. The platform is free to use and available via native apps and on web, working in partnership with over 200 medical societies, and is established as a secure and trusted platform in LMICs.

Learning Objectives

1. Describe the impact of AMR on global public health, including morbidity, mortality, and healthcare costs.
2. Identify factors contributing to the emergence and spread of AMR, including inappropriate antimicrobial use.
3. Discuss the challenges posed by antimicrobial use in vulnerable populations and resource-limited settings.
4. Outline the roles and responsibilities of HCPs in promoting responsible antimicrobial use.

Educational Content

The program used the following educational content targeted at HCPs in LMICs with a focus on sub-Saharan Africa

A. 12 Featured Educational Cases, created by MedShr's clinical team with subject matter experts
B. 2 online Learning Modules using longer form content with multiple choice questions to engage learners
C. AMR Education Group hosted and moderated on MedShr to cohort educational content

Results

The program reached 244,520 unique HCPs in the target audience with 75,537 engagements with the educational content (Figure 1) across LMICs (Figure 2). There was a 31% conversion rate from reach to engagements.

The responses to poll questions by HCPs before and after the program showed improvement AMR knowledge including: the role of E Coli AMR (increased by 45%); identification of the characteristics of viral compared to bacterial infections (increased by 10%); and understanding of the role of overprescribing in AMR (increased by 13%) (Figure 3).

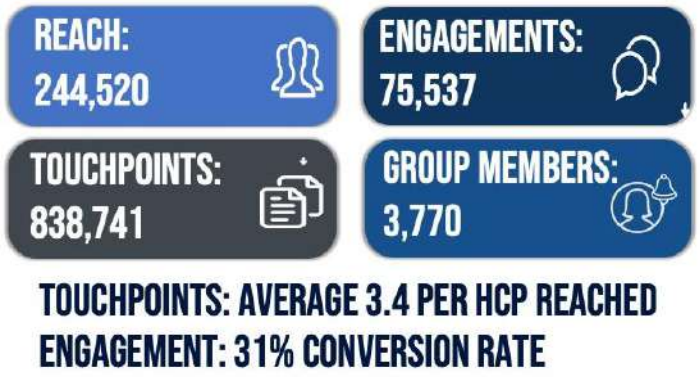

Figure 1. Program reach and engagement

Figure 2. Program reach to LMICs

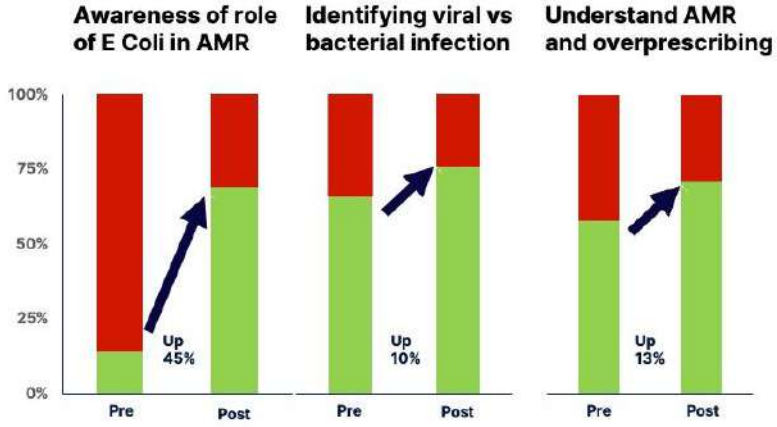

Figure 3. Pre- and post-education polling

Conclusion

This program demonstrates the effectiveness of mobile-first digital education in improving HCP knowledge and understanding of AMR in LMICs. The results align with data from a prior study showing that a short training program on AMR and anti-microbial stewardship (AMS) for HCPs in a LMICs can lead to a reduction in the prescribing of empirical and broad-spectrum antibiotics. Further work is in progress to extend the reach of this program and develop formal certification in AMS for HCPs in LMICs.

"I Can't Walk Straight Doc"- A Case Of Hemiballismus In Non-Ketotic Hyperglycaemia

Dr Blessy Biji Charaleal[1], Dr Sheikh Saleem[1], Dr Aarthi Suncaran[1]
[1]Wirral University Teaching Hospital NHS Foundation Trust

1. Presentation

- 87M- 3-day history - veering off to one side whilst walking & repeated involuntary movements of L arm.
- PMH: T2DM (HbA1c 117) & previous lacunar infarct
- Independent w/ ADL's, non-smoker, teetotaler.

2. Examination

- NEWS 0
- Power- 5/5 in UL & LL; Tone- normal in UL and LL
- Sensation and reflexes intact
- Cranial nerves: NAD
- Cerebellar Exam NAD

3. Investigations

- Bloods- FBC, LFTs and U+E NAD
- BG 32mmol/L
- Ketones- 0.1 mmol/L
- CT Head- no infarct or haemorrhage seen
- Stroke team advised for MRI - no acute findings

Hyperglycaemic Non Ketotic Hemiballismus

Refers to ballismus secondary to hyperglycemia with a reversible abnormality of basal ganglia that may be seen on CT/MRI [1]

- Females [2] , Prevalance- 1 in 100, 000 [1]
- Striatal hyperdensity seen on CT or hyperintensity on T1-weighted MRI[1]
- Possible mechanisms-
  - Hyperviscosity secondary to hyperglycemia -→ regional disruption of the blood-brain barrier and metabolic failure [2]
  - Decreased GABA availability in the striatum secondary to non-ketotic state [2]
- Neuroleptic treatments e.g. haloperidol, may be used in those with severe deficits [1]

Radiology

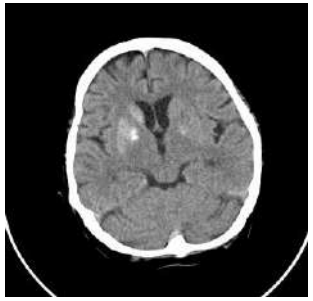

Fig 1. CT showing right striatal hyperdensity suggestive of diabetic striatopathy [3]

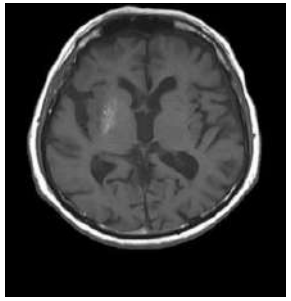

Fig 2. Axial T1 weighted MRI showing right striatal hyperintensity [4]

4. Management

- Stat dose of 80mg gliclazide given and on discharge, gliclazide regime increased from 40mg OD to 80mg OD.
- Referred to OP stroke clinic- discharged to GP due to resolved symptoms, unlikely presentation of a stroke/TIA and unremarkable radiological findings

5. Conclusion

- Hemiballismus is uncommon in the context of T2DM but considering metabolic causes as well as neurological diagnoses may be crucial in the management of such patients.

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Severe thyrotoxicosis with multiorgan dysfunction: a case report

Carola Maria Bigogno, Akash Doshi, Kirun Gunganah

Presenting complaint

A 41-year-old woman presented with 3 weeks of vomiting, shivering, shortness of breath, palpitations and 10kg of weight loss.

Background

Gravida 8, Para 1
Recurrent miscarriages and a stillbirth
Hb Hope carrier

Assessment

- Jaundiced
- Hypotensive (105/69 mmHg)
- Atrial fibrillation with a rapid ventricular rate (AF with RVR) (181 beats per minute).

Blood tests	
Hb 82 g/L	Ur 27.1pmol/L Cr 156 umol/L
ALT 210 units/L ALP 154 units/L Bilirubin 54 umol/L	Adjusted Calcium 2.75 mmol/L Sodium 128 mmol/L
FT4 >100 pmol/L Thyroid stimulating hormone [TSH] <0.01 mU/L Negative thyroid antibodies	

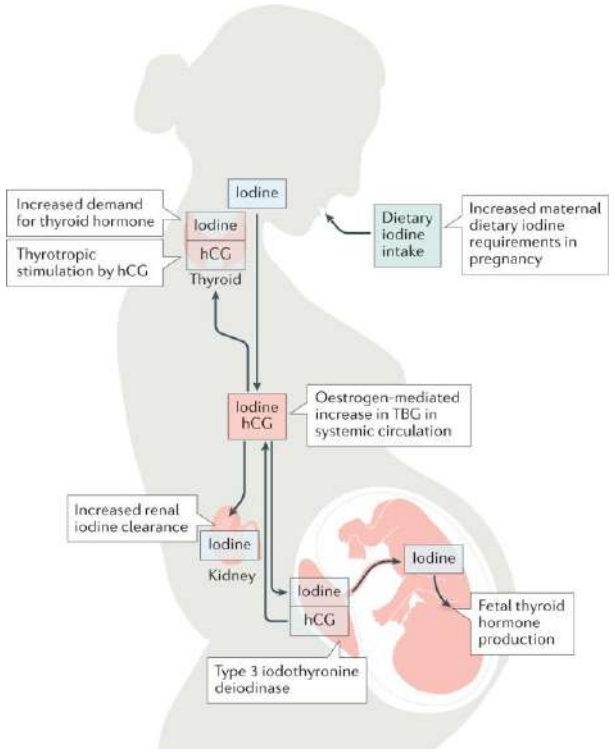

Figure 1 – Maternal and foetal factors contributing to increased iodine requirements during pregnancy. The requirement of thyroid hormone increases by about 50% during pregnancy, which required additional dietary iodine intake. Additionally, maternal thyroid hormone production is increased, mediated by human chorionic gonadotropin (hCG). Furthermore, oestrogen mediates production of thyroxine-binding globulin (TBG), which binds free T4, thus further increasing thyroid hormone production centrally. [3]

Key issues

- Impending thyroid storm with mild hypercalcaemia & deranged liver function tests
- Severe acute kidney injury with risk of fetotoxicity from uraemia
- AF with RVR
- Worsening anaemia (Hb 66 g/L)
- High-risk pregnancy

Plan

- Input from Cardiology, Endocrinology, Haematology, Intensive Care and Obstetric teams
- Beta blockers and treatment-dose low molecular weight heparin (LMWH)
- Fluid resuscitation and electrolyte replacement
- Thionamide (anti-thyroid) drug
- Foetal management, including foetal scans and daily foetal heartrate
- Supportive care

What happened next?

The foetal scan showed severe congenital abnormalities, including ventriculomegaly 12-133m, abnormal posterior fossa and possible evolving Dandy-Walker malformation for which the patient elected for a medical termination of pregnancy.
Following this, she has made a complete clinical recovery and is keen on future pregnancy.

Challenges and Key learning points

(1) Acute management of critical illness and AF with RVR in pregnancy;
(2) Differentiating between Graves' disease and gestational transient thyrotoxicosis caused by high levels of circulating beta chorionic gonadotropin hormone (beta-hCG) which shares a similar structure to TSH;
(3) Consideration of foetal impact from uraemia and severe thyrotoxicosis;
(4) Aetiology and management of worsening anaemia and cholestasis;
(5) Multidisciplinary management of patients with complex background and presentation.

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NHS
Barts Health
NHS Trust

Could smart wearables predict individuals who are at risk of Sudden Cardiac Death?

Chloe Lord, Medical Student, University of Leeds

Introduction

Sudden Cardiac Death (SCD) refers to an unexpected death from a cardiac cause, that occurs within a short time frame after onset of symptoms (usually within one hour). SCD represents a major cause of cardiovascular mortality globally, and identification of individuals at risk is pivotal to reduce its burden. However, this is challenging due to the abrupt onset, with SCD being the first cardiac event in a quarter of victims. Furthermore, outcomes for these patients are poor because the majority are unable to receive treatment in time. The 12-lead electrocardiogram (ECG) is limited by the requirement for medical settings and short duration recordings.

A smart wearable is defined as an electronic device that can be worn and intermittently or continuously collects and exports health data. The smart wearable market is expanding rapidly, with an estimated 40% of the UK population owning these devices. The rise of smart wearables, capable of recording ECGs, offers the opportunity of remote cardiac monitoring. The aim of this review was to explore ECG predictors of SCD and their applicability in smart wearable devices.

Method

A systematic review design based on the PRISMA guidelines was used to comprehensively explore the recent evidence on ECG predictors of SCD and their potential applications in smart wearables. Results were obtained by searching Embase, Ovid Medline, EBM and PubMed. Inclusion and exclusion criteria were applied to identify eligible studies.

Results

The search identified 350 results. An extra seven papers were identified through citation searching. Following screening and eligibility assessment, 16 papers were identified and included in the review. The studies in the review were a mixture of retrospective case control studies (n = 6), retrospective cohort studies (n = 2) and prospective cohort studies (n = 8).

Five ECG parameters were identified in association with SCD: T-wave morphology (TWM), QT interval, T-peak to T-end (TpTe) interval, T-wave alternans (TWA) and QRS duration.

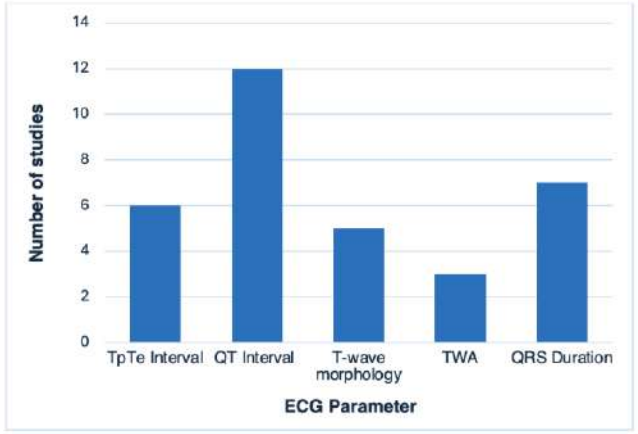


Figure 1: ECG parameters explored in association to SCD in eligible studies
TpTe, T-peak to T-end; TWA, T-wave alternans

Discussion

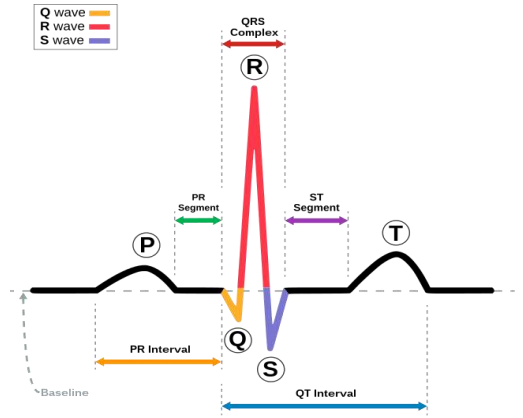


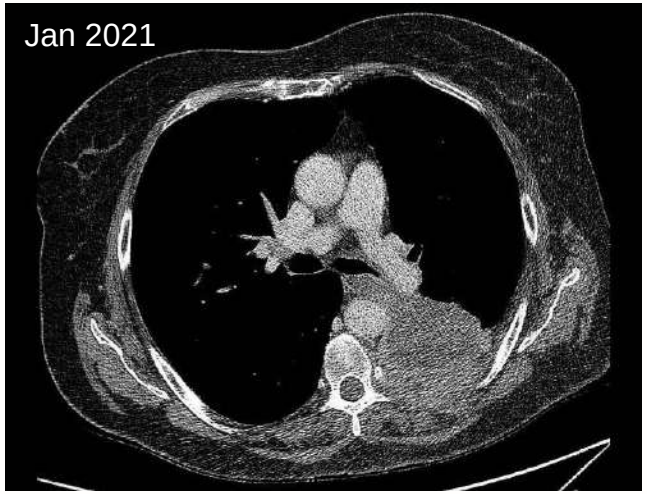
Figure 2: Electrocardiogram signal waveforms

TWM was the ECG parameter with the most potential, as it had the strongest independent association with SCD and was successfully measured using lead I on a large scale (most used in smart wearables). The **TpTe interval** was also highly correlated with SCD, however it has yet to be determined if it can be accurately measured on smart wearables. **TWA** was consistently associated with SCD and proven feasible on smart wearables. The **QT interval** had varying significance in this review. Individuals at risk of SCD with a normal QT interval, such as a subgroup of long QT syndrome patients, were being missed by this parameter. **QRS duration** had limited utility as a predictor of SCD. Identifying those at risk of SCD, through the ease of ECG measurements outside a healthcare setting, provides a crucial opportunity for early detection and timely intervention. However, further research is essential for clinical implementation.

61-year-old ex-smoker female diagnosed of **T4 N2 M0 adenocarcinoma of left lower lobe** (TTF1+, EGFR-/ALK-/ROS1-, PDL1 50%) in October 2020

Induction chemotherapy with Carbo-Paclitaxel for 4 cycles - partial response.
Concurrent chemo-RT from February to April 2021

Distant progression with new invasion of T3 and millimetric metastases at contralateral lung.
Of note poor prognostic LIPI (Lung Immune Prognostic Index)

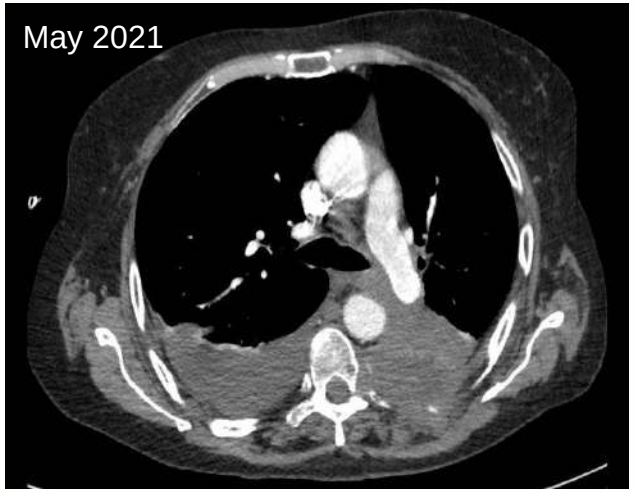


HYPERPROGRESSIVE DISEASE in stage III Non-Small Cell Lung Carcinoma - *clinical case*

Commenced Pembrolizumab in July 2021 - admitted on day 7 for poor pain control and increasing dyspnoea.
CT PA revealed **widespread progression** at lung, right hilum, liver, adrenal, spleen, subcutaneous and spine at T2-T3 and T6

New onset of motor-sensorial loss on lower limb were clinically concerning for **spinal cord compression**.
Urgent palliative RT commenced - 2/5 fractions completed (8 Gy/20 Gy) until terminal decline and end-of-life care

Hyperprogression to Immune-Checkpoint Inhibitors remains uncommon in real-world practice; however predictive biomarkers are lacking.
Next-Generation Sequencing, Artificial Intelligence and circulating tumour DNA analysis may be of relevance for evaluation in prospective studies and real-world datasets



Lopez Escola, Cristina; Alvaro, Flores; Waqar, Haider; Marcela, Zagurova; Naim, Qandil; Juan, Roman Alonso; Mamta, Moreno; David, Ballesteros Quintanilla

Gait Decline And Thickened Cauda Equina – A Diagnostic Conundrum

Dr Cristina Aimee Musat, IMT4, Internal Medicine. Aintree University Hospital

Liverpool University Hospitals NHS Foundation Trust

1. INTRODUCTION

Primary Diffuse Large B-cell Lymphoma (DLBCL) of the central nervous system (CNS) is rare, accounting for ≤1% of all lymphomas and 1–3% of primary CNS tumors, very rarely involving the spinal cord.[1] The diagnosis can be challenging due to variable clinical presentations and no specific neuroimaging or laboratory findings. [2]

This reports a very rare case of DLBCL of the spinal cord, which posed a diagnostic challenge, having primary involvement of the spinal cord and the presence of other diagnostic confounders, with positive syphilis serology, dry lumbar puncture tap and the possibility of Chronic Inflammatory Demyelinating Polyneuropathy (CIDP).

2. CASE HISTORY

- 64 year old male, recovery mechanic, BG recent DVT (deep vein thrombosis), heavy smoker
- 10 weeks history of rapid progressive gait decline with back and lower limb (LL) pain
- Subtle encephalopathy, flaccid areflexic lower limbs , 2/5 power lower limbs
- Sensory level to T10 with urinary retention

3. INVESTIGATIONS

Calcium	2.90 mmol/L (N 2.1-2.16 mmol/L)
IgM	7.5 g/L (N 0.4 – 2.3 g/L)
CA 19-9	64 U/mL (N 0 – 37 U/mL)
ACE	normal
Alpha 1 antitrypsin	normal
Syphilis antibodies	Positive
Syphilis treponema pallidum particle agglutination assay (TPPA)	Positive
MRI whole spine	Diffuse leptomeningeal enhancement from basal meninges nerves all the way caudally to conus and grossly thickened cauda equina *(Image 1)*
CSF	Dry tap
CT TAP	Dilated CBD and pancreatic duct ?potential pancreatic infiltrates
EMG	CIDP not excluded

Image 1. MRI thoracolumbar spine

4. TIMELINE

Admission
Symptomatic management
Bisphosphonates

4 weeks
Worsening encephalopathy
Power 0/5 in LL
→**IV Methylprednisolone**

Encephalopathy resolved
Power 1/5 in LL
Immunofixation: Two biclonal IgM kappa paraprotein bands

6 weeks
Bone marrow Biopsy: Waldenstroms macroglobulinaema
Lumbar spine Biopsy: DLBCL
PET CT: widespread high-intensity FDG within the spinal canal

9 weeks
Transfer to cancer centre
→ **Chemotherapy** (Rituximab- Methotrexate- Cytarabine)
Brief improvement

4 months
Progression to complete paraplegia
Palliated

5. LEARNING POINTS

- DLBCL of the spinal cord can have variable presentations with multiple differentials (in this case- dural AV fistula, sarcoid, CIDP, syphilis or malignancy), which can hinder the diagnosis. A working knowledge of the condition is vital.
- Imaging studies (MRI and PET CT scan) and CNS biopsy are crucial in excluding other differentials.
- Cases initially involving the CNS have very poor prognosis due to rapid tumour growth and lack of effective treatment.[3] They have an overall survival of 1.5 months when untreated and a 5-year survival rate of 30%.[2]
- Making a timely diagnosis is critical.

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Decoding cardiac masquerade Arrhythmogenic cardiomyopathy camouflaging as acute myocardial infarction

WHAT IS ArVC?

Arrhythmogenic ventricular cardiomyopathy is a rare inherited cardiomyopathy resulting in abnormal electrical conduction through fibro-fatty tissue [(1)].

It commonly presents with syncope and arrhythmias but can rarely present with chest pain and myocardial enzyme release, sometimes described as “the hot phase” [(2)].

NHS North West Anglia NHS Foundation Trust

AUTHORS

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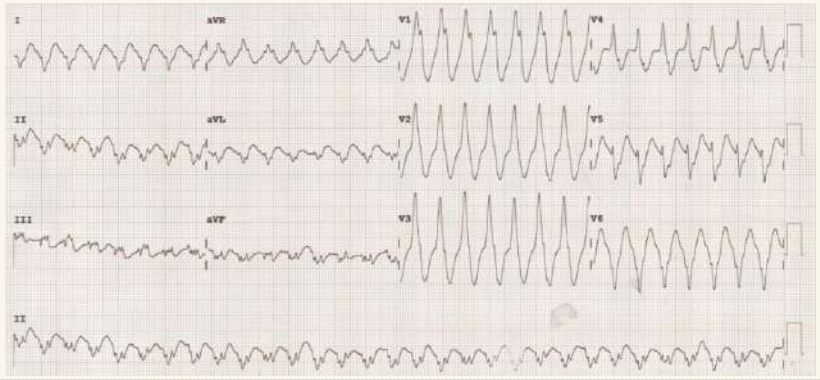
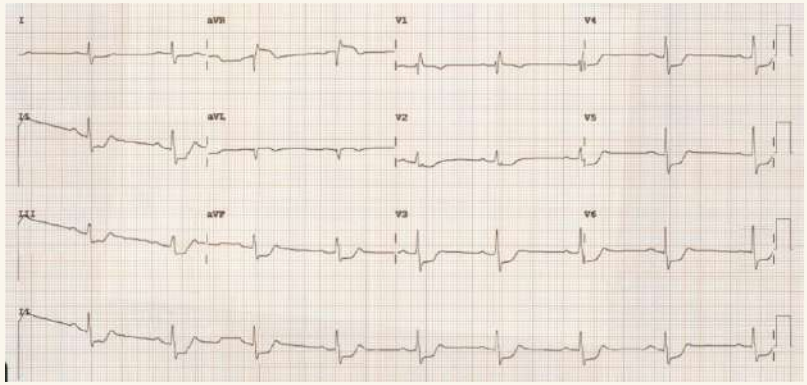
CASE PRESENTATION

A 76 year old male presented with a sudden onset retrosternal chest pain, shortness of breath and diaphoresis, resembling his previous MI 25 years ago. **An angiogram then did not show any coronary artery disease.** There was no history of palpitations or syncope.

In ED, he had broad complex tachycardia ***(as below)***, tachypnoea, hypoxia (SpO2 77% on air) and hypotension (unrecordable blood pressure). Given these parameters, he was electrically cardioverted to sinus rhythm with a synchronised 200J shock.





ECG post cardioversion (***as above***) showed a positive deflection after the QRS complexes in right sided leads.
He was treated for as ACS with aspirin, clopidogrel and fondaparinux. Serial troponin levels peaked at 554 ng/ml.

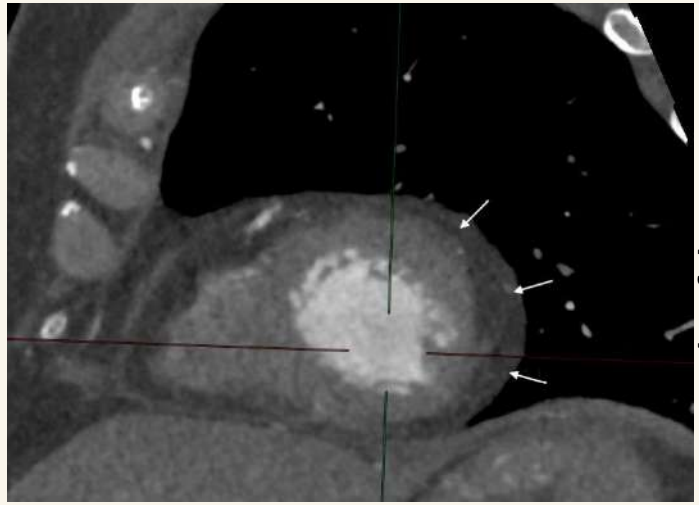
IMAGING & DIAGNOSIS

Echocardiogram displayed normal LV size but impaired systolic function (EF 45-50%) with hypokinesis of apical and anterior walls, akinetic apical inferior wall segment, and normal right ventricles and atria. No significant valvular abnormalities or pericardial effusion were noted.
CT angiogram revealed **normal coronaries** but **extensive fatty metaplasia, mostly within the left ventricular myocardium which suggested arrhythmogenic cardiomyopathy** ***[Figure 1]***.
He underwent a cardioverter defibrillator implantation.
On clinic **follow ups**, patient remains asymptomatic and well**.**

DISCUSSION & CONCLUSION

AVC typically presents with arrhythmias or dysfunction, however, it may rarely present with chest pain and troponin release, requiring differentiation from ACS or Myocarditis.[2] Timely recognition is crucial as misdiagnosis can lead to inappropriate interventions and complications.

Ongoing research is imperative to refine diagnostic criteria, improve risk stratification, and optimise management strategies for this unique cardiomyopathy. A multidisciplinary approach, combining clinical expertise, imaging modalities, and genetic insights, is essential to unravel the complexities of ACM and pave the way for enhanced patient care and outcomes.



[Figure 1]

References:
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Polymicrobial septicaemia, thrombocytopenia and cavitating lung lesions; a case of metastatic Lemierre's Syndrome

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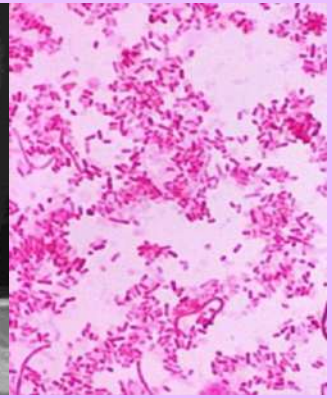
Whittington Health NHS Trust

Introduction

Andre Lemierre was a bacteriologist and professor of medicine working in Paris in the early 20th century. In 1936 he published a case series of twenty patients all of whom had died of the same clinical syndrome; pharyngotonsillitis, suppurative thrombophlebitis of the internal jugular vein and anaerobic gram-negative bacteraemia.



"The syndrome is so characteristic that it permits of diagnosis before bacteriological examination, including blood culture, has provided conclusive proof."
– A. Lemierre 1936

Lemierre's syndrome is a life-threatening complication of pharyngitis or tonsillitis. The organism he held responsible is now known as *Fusobacterium necrophorum*.

Case presentation

A previously healthy young woman presented with one day of pleuritic chest pain and a painful left hallux. This had been preceded by sore throat for one week.

Observations

T 38.5 degrees, RR 20, O2 sat 95%, BP 110/60, HR 115.

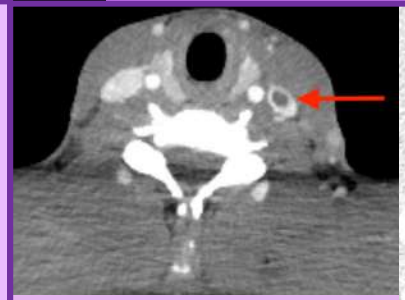
Examination findings

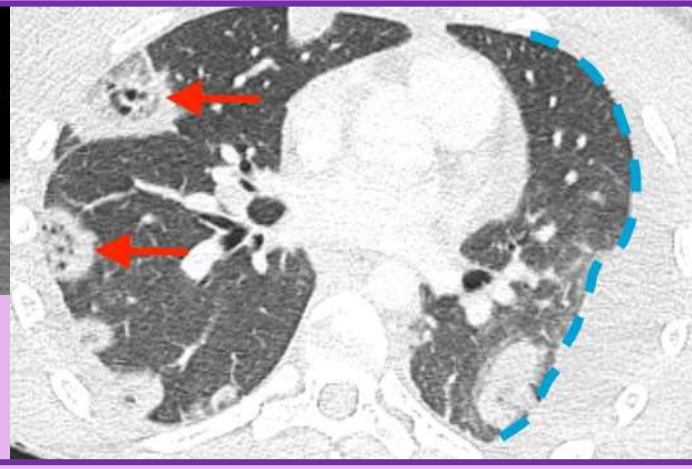
Reduced air entry at the left base.
No murmur. Capillary refill time <2 seconds.
The left first MTP joint and left fifth PIP joint of the hand were both erythematous and tender to palpate.
No rash, meningism, tonsillar exudate or neck swelling.

Notable blood and microbiology results

Hb	116	115 - 165 g/L
Wbc	17.7	3.5 - 12 x 10^9/L
Plt	8	140 - 400 x 10^9/L
Neut	16.4	1.7 - 7.5 x 10^9/L
Lymph	0.7	1 - 4 x 10^9/L
CRP	220	0 - 5 mg/L
Na	121	135 - 145 mmol/L
K	4.6	3.5 - 5.1 mmol/L
Ur	13.9	2.1 - 7.1 mmol/L
Creat	126	49 - 92 mmol/L

Blood cultures	*Streptococcus constellatus* *Fusobacterium necrophorum*
US of the L hand and foot	"Effusion of the first MTP and fifth PIP joints, consistent with septic arthritis."





Imaging

CT pulmonary angiogram lung & mediastinal windows

Management and clinic course

Day 1: Immediate management with IV crystalloid and IV empirical antibiotics (co-amoxiclav and gentamicin). Reports for blood culture gram stain and CT imaging were available within hours. Specialist haematology and microbiology advice was to add anaerobic cover with IV ceftriaxone and metronidazole, and to transfuse a single pool of platelets.
Day 2: Despite treatment for suspected Lemierre's, respiratory failure ensued. The patient was admitted to intensive care for HFNO and invasive BP monitoring.
Day 3: Blood cultures confirmed fully-sensitive *S. constellatus* and *F. necrophorum*. Antibiotics were switched to high dose benzyl penicillin and metronidazole.
Day 4: Respiratory failure persisted and repeat CT imaging identified increased size of the loculated pleural effusions. Left and right-sided chest drains were placed on days five and six, respectively. Treatment dose tinzaparin was initiated after platelets rose.
Day 8 and onwards: Hypoxia resolved and she was stepped down to a medical ward.
Day 20: Discharged. Full recovery 3 months post-admission.

Typical features of Lemierre's

- A history of pharyngitis or tonsillitis.
- Thrombophlebitis of the internal jugular vein.
- *F. necrophorum* bacteraemia.
- Septic thromboembolic metastases to distant sites, causing pulmonary cavitation, septic arthritis, and more.

Learning points specific to this case

- Lemierre's should be considered in young adults with a sepsis-type presentation and cavitating lung lesions or multiple pulmonary emboli.
- Thoracic and neck vessel imaging is of critical diagnostic value in suspected patients, particularly in the absence of clear ENT examination findings.
- *F. necrophorum* can cause severe thrombocytopenia, and the extent of thrombocytopenia may correlate with the risk of distant thromboembolism.
- The role of anticoagulation in patients with Lemierre's syndrome remains unclear.
- Full recovery can be anticipated with appropriate management. This should include anaerobic antimicrobial cover as early as possible.

A Prospective Multicenter Study Of The Endoscopic Ultrasound-Guided Radiofrequency (EUS-RFA) And Ethanol Ablation (EUS-EA) In Pancreatic euroendocrine Tumors And Adenocarcinoma Of The Pancreas.

Hussein H, Okasha[1]; Ahmed, Altonbary[2]; Khaled, Ragab[3]; Elsayed, Ghoneem[4]; Mohammed, Tag-Adeen[5]; Abeer, Abdellatef[6]; Mohammed, Naguib[7]; Gadour, Eyad[8]

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Introduction

EUS-RFA and EUS-EA are emerging novel methods for managing non-functioning and functioning pNET and adenocarcinoma in the
pancreas [1].
We aim to assess the safety profile, feasibility, and outcomes of EUS-RFA and EUS-EA of focal pancreatic masses.

Materials and methods

This prospective study included 27 patients, 15 males and 12 females, with a mean age of 36.38 years.

All patients were presented with confirmed neoplastic pancreatic focal lesions and were subjected to local ablative therapy from January 2021 to June 2023.

Statistical analysis was conducted by using Statistical Package for the Social Sciences (SPSS),29.0.10.

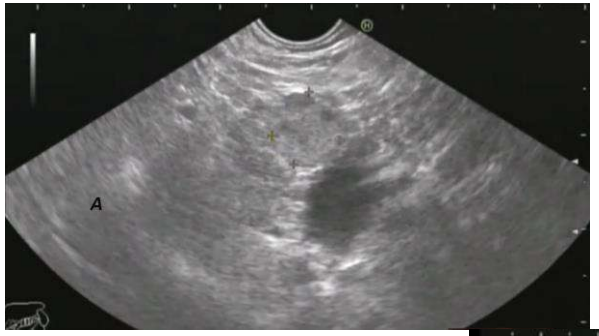

Figure 1: pancreatic insulinoma

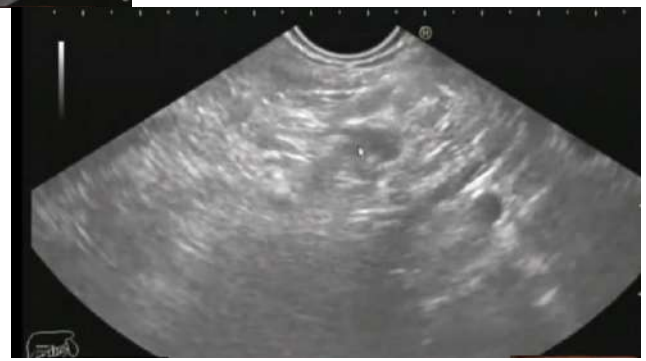

Figure 2: Post RFA

Conclusion

EUS-RFA and EUS-EA can potentially treat lesions and control symptoms. EUS-RFA is a more promising and safer technique for
managing functioning insulinomas. However, it can not downstage PDAC patients. EUS-EA seems less efficient, with more adverse
events than EUS-RFA.

Results

There was a complete clinical cure of 10 out of 11 (91%) patients with pancreatic insulinoma who underwent EUS-RFA (Figure 1).
However, one patient required three sessions, and two patients required two sessions of EUS-RFA. The 11th patient with insulinoma showed poor response after the first session, then partial response after the second session of EUS-RFA (Figure 2).

The size of the two masses with advanced adenocarcinoma was decreased, but no downstaging of the masses was achieved. There was a complete clinical cure of 8 out of 14 (57%) patients with pancreatic insulinoma who underwent EUS-EA. No linical cure was observed in 4 patients; 3 underwent major surgery, and the 4th one underwent EUS-RFA. The last two patients showed partial clinical response with decreased frequency, duration, and severity of hypoglycemic attacks. They were managed by diet regulation; no major surgery was needed.

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Accuracy And Efficacy Of The Endoscopic Ultrasound (EUS) In Diagnosing Focal Liver Lesion (FLL), Obtaining Liver Sampling And Liver Abscess Drainage; A ystematic Review And Meta-Analysis

Gadour, Eyad[1]; Abeer, Awad[2]; Zeinab, Hassan[3]; Khalid, Shrwani[4]; Bogdan, Miutescu[5]; Hussein, Okasha[6]

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Introduction

Recently, there has been a surge in the clinical utilization of endoscopic ultrasound (EUS) in hepatology [1]. These applications range from diagnosis to treatment of various liver diseases [2]. Therefore, the current systematic review has summarized the evidence on the diagnostic and therapeutic roles of EUS in liver diseases.

Materials and methods

PubMed, Medline, Cochrane Library, Web of Science, and Google Scholar databases were extensively scoured for studies until October 2023. The methodological quality of the eligible articles was performed using the Newcastle Ottawa Scale or Cochrane's Risk of Bias tool.
In addition, statistical analyses were performed with the Comprehensive Meta-Analysis software.

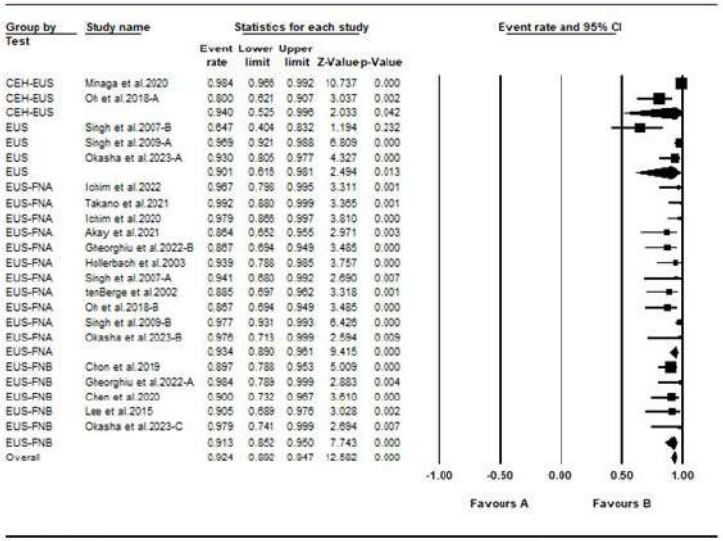

Figure 1 Forest plot of diagnostic accuracy in FLL detection

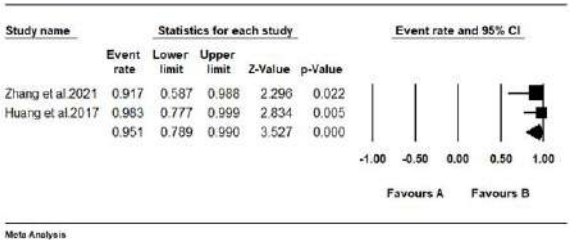

Figure 2 Forest plot of the technical success rate of EUS in detecting portal hypertension

Results

A total of 45 articles (28 evaluating the diagnostic role and 17 evaluating the therapeutic role of EUS) were included. The pooled analysis demonstrated that EUS diagnostic tests have an accuracy of 92.4% for focal liver lesions (FLL) and 96.6% for parenchymal liver diseases [figure 1].
In addition, the cumulative analyses showed that EUS-guided liver biopsies (EUS-LB) with either fine needle aspiration (FNA) or fine needle biopsy (FNB) have low complication rates when sampling FLL and parenchymal liver diseases (3.1% and 8.7%, respectively).

Furthermore, analysis of data from four studies has shown that EUS-guided liver abscess (EUS-AD) has a high clinical (90.7%) and technical success (90.7%) without significant complications. Similarly, EUS-guided interventions for the treatment of gastric varices (GV) have a high technical success (98%) and GV obliteration rates (84%), with low complications (15%) and rebleeding events (17%) [figure 2].

Conclusion

EUS in liver diseases is a promising technique with the potential to be considered as a first-line therapeutic and diagnostic option in selected cases.

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Meta-Analysis And Systematic Review Of Liver Haemodialysis Vs Standard Medical Therapy In Hepatic Dysfunction.

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Introduction

Since not all liver dysfunction patients are suitable for transplantations and there is a shortage of grafts, liver support therapies have gained interest. In this regard, extracorporeal albumin dialysis devices such as ingle-Pass Albumin dialysis (SPAD), Prometheus, and Molecular Adsorbent Recycling System (MARS) have been valuable in supplementing standard medical therapy (SMT) [1, 2].

However, the efficacy and safety of these devices is often questioned. Therefore, we performed a systematic review to summarize the efficacy and safety of MARS, SPAD, and Prometheus as supportive treatments for liver dysfunction.

Materials and methods

PubMed, Medline, Cochrane Library, Web of Science, and Google Scholar electronic databases were extensively searched for all randomized trials published in English.
In addition, meta-analytic analyses were performed with the Review Manager software, and
Cochrane's risk of bias tool embedded in this software was used for bias assessment.

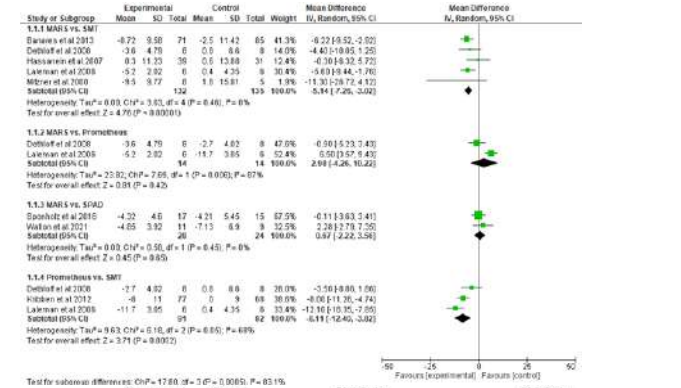

Figure 1 Forest plot showing efficacy of ECAD devices in reduction of Bilirubin levels

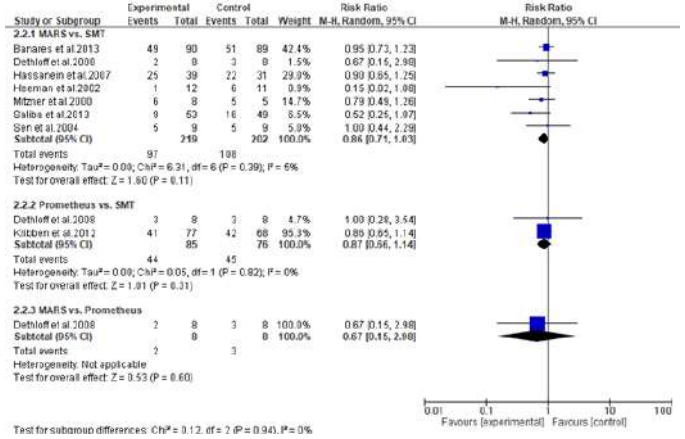

Figure 2 Forest plot showing effect of ECAD devices on Mortality outcomes

Results

12 trials with 653 patients were eligible for inclusion. Subgroup analyses of data from these trials revealed that MARS and Prometheus were associated with significant removal of bilirubin (MD: -5.14 mg/dL; 95% CI: -7.26 – -3.0; p <0.00001 and MD: -8.11 mg/dL.; 95% CI:-12.40 – -3.82; p = 0.0002, respectively) but not bile acids and ammonia when compared to SMT [figure 1].

Furthermore, MARS was as effective as Prometheus and SPAD in the reduction of bilirubin (MD: 2.98 mg/dL; 95% CI: -4.26 – 10.22; p = 0.42 and MD: 0.67 mg/dL; 95% CI: -2.22 – 3.56; p = 0.65), bile acids (MD: -17.06 µmol/L; 95% CI: -64.33 – 30.20; p = 0.48) and MD: 16.21 µmol/L; 95% CI: -17.26 –49.68; p = 0.34), and ammonia (MD: 26 µmol/L; 95% CI: -12.44 – 64.44; p = 0.18).

In addition, MARS had a considerable effect in improving hepatic encephalopathy (HE) (RR: 1.54; 95% CI: 1.15 – 2.05; p = 0.004). However, neither MARS nor Prometheus had a mortality benefit compared to SMTRR: 0.86; 95% CI: 0.71 – 1.03; p = 0.11 and RR: 0.87; 95% CI: 0.66 – 1.14; p = 0.31, respectively) [figure 2].

Conclusion

MARS, SPAD, and Prometheus as liver support therapies are equally effective in reducing albumin-bound and water-soluble substances.
Moreover, MARS is associated with HE improvement. However, none of the therapies was associated with a significant reduction in mortality or adverse events.

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Evaluation of the digital support tool Gro Health W8Buddy as part of tier 3 weight management service

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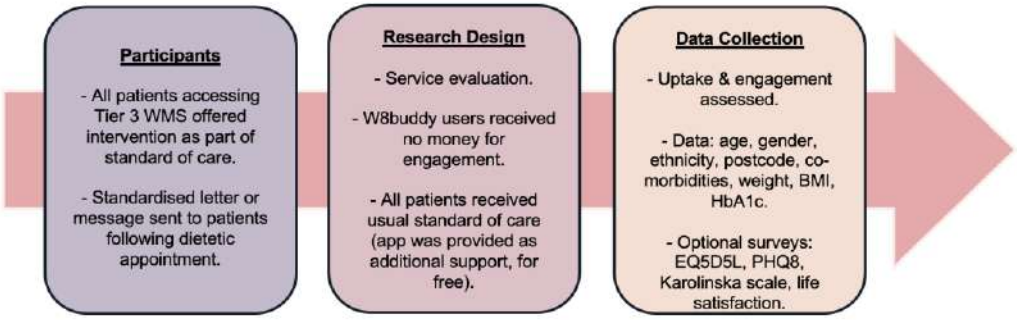
Background:

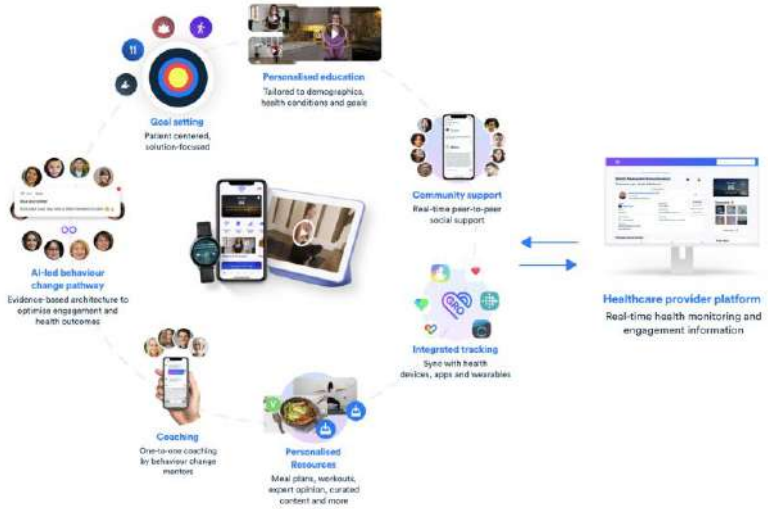
Escalating prevalence of obesity increases the risk of chronic diseases and diminishes life expectancy.[1] Existing tiered approach to weight management services (WMS), particularly specialist Tier 3 services, falls short of meeting the population's needs.

Methods:



GroHealth W8buddy:

W8buddy ccollaboratively developed September 2022 by patients & clinicians. It is a personalized platform, offering a tailored weight management plan to empower individuals with attitudes, knowledge, and skills to self-manage their health.



Outcomes:

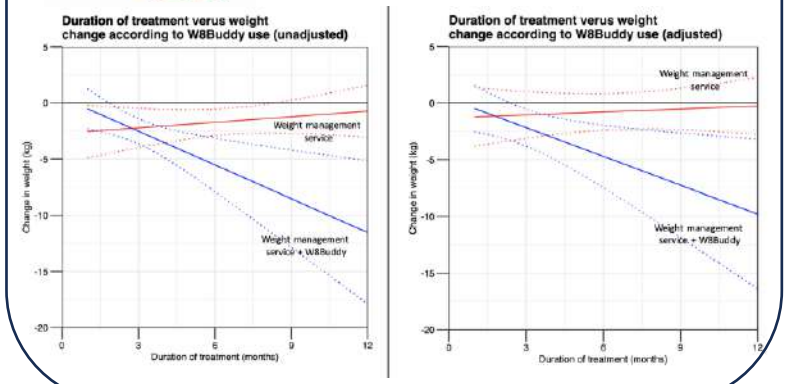
226 patients with data available
80% female + Caucasian
Mean age 42 years (users) vs 48 years (non-users) (p=0.01)

118 app users
28% activated the app by June 2023 (n=220/783)
93% engagement (n=205/220)

108 non-users

Weight

W8Buddy had an impact on absolute weight loss (β -1.16, SE 0.40, p=0.004) compared to standard care alone.
Time using W8Buddy is a predictor of weight loss (p=0.05), with a 0.74kg monthly loss compared to standard care (β -0.74, 95%CI (-1.28, -0.21), p=0.007)



HbA1c

W8buddy users with T2DM had a significant HbA1c reduction compared to non-users with T2DM (59.8 mmol/mol to 51.2 mmol/mol, p=0.018)

Mental wellbeing

Significant improvement across all psychological survey outcomes (p<0.001) during follow-up

Conclusion:

W8Buddy demonstrated improvements in clinical and psychological outcomes for users. Digital tools can complement traditional services to promote patient empowerment. Endorsed by NICE guidelines, W8Buddy holds promise for improved weight management and glycaemic control within specialized WMS.

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Acute Urinary Retention and Constipation Caused by Multi-Dermatomal Herpes Zoster in an Immunosuppressed Patient

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INTRODUCTION

Herpes zoster (HZ, shingles) is the result of the reactivation of latent varicella zoster virus (VZV) within the dorsal root ganglia. It most commonly manifests as a painful, vesicular eruption confined to a single dermatome.[1] We report on the case of an immunosuppressed patient with multi-dermatomal, lumbar HZ presenting with the rare complication of acute urinary retention and constipation.

CASE REPORT

71-year old female with a background of rheumatoid arthritis treated with methotrexate, leflunomide, upadacitinib (JAK-inhibitor), and long term steroid therapy presented with a 10-day history of unilateral, painful, vesicular rash in the L1-L4 dermatomes (Figures 1-2) associated with mild fever. Prior to admission, she had been taking simple analgesia and oral aciclovir. Her CRP was elevated at 200 and she was treated as HZ with a superadded bacterial cellulitis with regular analgesia, flucloxacillin and intravenous aciclovir. She reported difficulties with micturition in the 24 hours prior to admission and a bladder scan confirmed a residual urine volume of 700mls. A urinary catheter was inserted with good effect and urine culture was negative. She also reported constipation for the past 3 days. This responded to regular laxatives and phosphate enemas and eased after a few days. Once her neuralgia improved, she was discharged with a temporary catheter for 3 weeks. Follow-up in the urology clinic a month later showed full recovery of bladder function.

Figures 1-2: Healing vesicular rash in L1-L4 dermatomal distribution

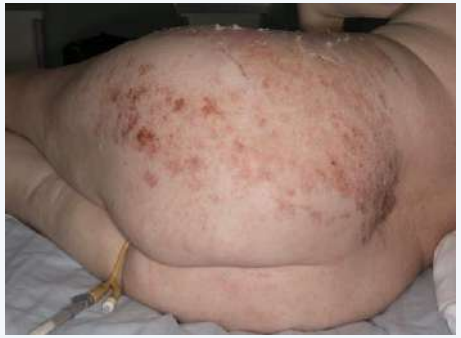

Figure 1

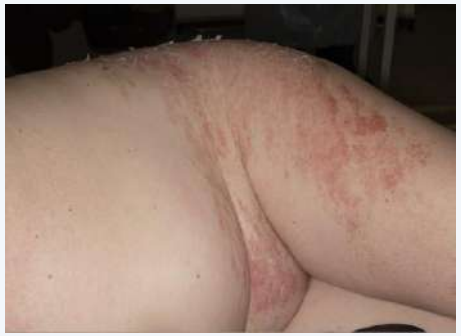

Figure 2

DISCUSSION

HZ is caused by reactivation of the varicella zoster virus and those older than 60 years are at much higher risk due to waning cell mediated immunity as one gets older.[2] Immunosuppression is also a risk factor and it is a common side effect of JAK inhibitors.[3] Lumbar and sacral involvement accounts for 8% and 4% of all HZ cases respectively.[4] Most reported cases of HZ-associated bladder and bowel dysfunction involves the sacral dermatomes. Pathophysiology in these cases includes involvement of the sacral parasympathetic fibres, resulting in detrusor areflexia, reduced colonic peristalsis and anal sphincter dysfunction.[1,2] Reports of lumbar HZ associated urinary and bowel problems as in our case are rare and relevant aetiology is less clear. Possible mechanisms include involvement of the lumbar sympathetic nerve fibers, which play an important role in regulating micturition and colonic motility.[5,6] Urinary retention typically occurs at the time of rash eruption or one week later. Voiding function can take 4 to 6 weeks to recover and removal of urinary catheter should not take place until the infection has completely resolved.[7] Although prognosis is usually excellent with complete recovery of bladder and bowel function following conservative management, more severe complications including bladder rupture and colonic pseudo-obstruction have been reported although exceedingly rare.[8,9]

CONCLUSION

HZ is not always a purely cutaneous eruption, and in the lumbosacral region it is important for the clinician to be aware of the potential urological and gastrointestinal complications especially in the elderly and immunosuppressed patients. Prompt recognition and treatment will improve prognosis and prevent more severe complications such as organ rupture.

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A case report: A rare evolving disorder of multiple lesions with an elusive diagnosis

Authors: Dr Gemma Gardner, Dr William Hunt, Madeleine Stephens, Dr Toby Chave

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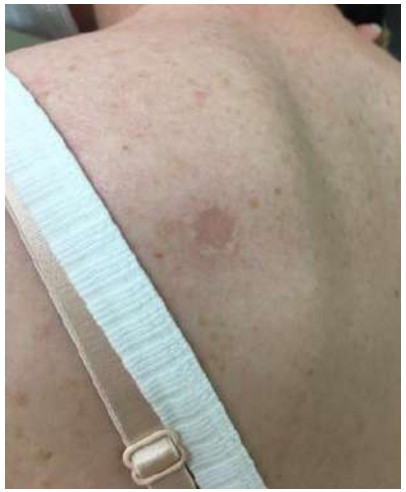
History

- A 37-year-old female presented with a **non-specific annular** indurated flesh-coloured lesion on the right side of her neck.
- She also presented 12 months later with a similar but larger lesion on her back.
- Past history included a basal cell carcinoma excised from the right temple at age 35, and a lesion on the dorsum of the right hand which had enlarged gradually over several years when she was an adolescent

Clinical findings

- Physical examination showed a lesion over the left scapula (Figure 1). The lesion had visible **central atrophy with a slightly raised indurated rim**. The depressed area centrally measured 2x2cm.

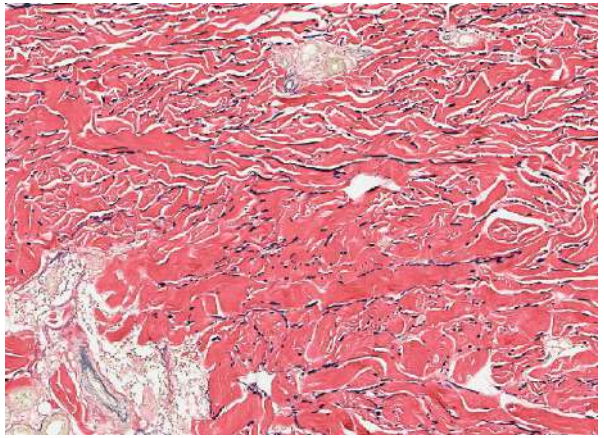
Figure 1



Diagnosis…

Given the clinical presentation and histopathology, a diagnosis **of Annular atrophic plaques of the skin**, also known as **Christianson's disease** was made

Figure 2



Histopathology

- Histology from an incisional biopsy of the back lesion demonstrated mild epidermal atrophy with underlying papillary dermal fibrosis. There was mild **perivascular inflammatory cell infiltrate** composed predominantly **of lymphocytes.**
- **Elastin van Gieson (EVG**) staining demonstrated **fragmentation of the elastic fibres** in the dermis (Figure 2).

Discussion

- Christianson's disease is **very rare**, and little reported in the literature[1-6]. Currently only one case[2] is **reported in women**.
- As seen in our patient, the plaques are thought to predominantly occur **on sun-exposed skin,** are asymptomatic and evolve in size[1]
- There is dilemma as to whether the plaques are a form of discoid lupus erythematosus (DLE)[1-3], morphoea[1] or lichen sclerosis[1] or represent a unique disorder[4]
- Sharma et al suggest the plaques could be an end stage of the skin disorders listed above[5]. This process is also true for other types of **anetoderma** such as Jadassohn-Pellizzari type and Schweninger-Buzzi type.
- Interestingly, anetoderma has a similar process whereby there is **atrophy and loss of dermal elastic fibres**[7]. This in fact may qualify Christianson's disease as an anetoderma.

Conclusion

- Christianson's disease is **a rare and complex dermatological disease**, resulting in limited literature coverage.
- Our case describes Christianson's disease in a woman, only documented once before[2]. The challenges posed by limited coverage include **varying histological** findings and it has unclear association with other conditions.
- To address these unanswered questions, it's important **to uncover more cases** with **longer follow-up and biopsies** of fresh and older **lesions**.

A RARE FALLACY OF DYSPHAGIA AND MYOGLOBINURIA WITH PRESERVED RENAL FUNCTION IN VIRAL MYOSITIS.

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Co Authors: Dr Geetha Mary Philips, Dr Joe Thomas, Dr Sandeep Thampi, Dr Vishnu R Kurup, Dr Aysha Sana,Aster Medcity,Kochi,India

INTRODUCTION

- Dysphagia is a rare presentation in patients with viral myositis .
- As per Literature, only 10%-20% of patients with myositis developed weakness of oropharyngeal, laryngeal, and esophageal musculature that leads to impairment in swallowing.1-2
- Acute renal failure associated with myoglobinuria is the most serious complication of myositis causing rhabdomyolysis, which can be life threatening.3
- Here we are describing case of a 25-year-old gentleman who presented with fever, myalgia and myoglobinuria , who was diagnosed as viral myositis with dysphagia and Preserved renal functions .

CASE REPORT

- A 25-year-old male presented with complaints of generalized diffuse muscle pain associated with stiffness of two weeks duration.
- Blood investigations showed elevated blood counts, transaminitis, elevated Creatine phosphokinase (CPK) levels.
- CPK levels crossed 1 lakh on day 6. Myositis profile was sent, which turned out to be negative.
- Urine myoglobin was positive, but his renal functions were preserved throughout course of hospital stay. He was started on IV pulse steroids.
- MRI and Muscle biopsy was suggestive of viral myositis.
- In view clinical deterioration, he was started on IVIG infusion. His CPK levels reduced gradually.
- He was noted to have severe dysphagia .Oral and palatal strengthening exercises, including Masako manoeuvre were initiated.
- In view of dysphagia, he was started on Ryles tube feeding. He was gradually started on oral blended semi solids and was advised to continue palatal strengthening exercises.
- He became clinically better and was discharged.

CONCLUSION

- Dysphagia is a rare presentation in viral myositis and is much more common in steroid resistant patients.
- This is an atypical presentation of viral myositis with severe involvement of muscles of deglutition and myoglobinuria with preserved renal parameters.
- As a conclusion, rarely Viral myositis can present with involvement of muscles of deglutition and myoglobinuria with preserved renal functions.
- Treatments given were IV steroids and IVIG.
- Thus, our case demonstrates that Viral myositis with dysphagia can be completely reversed with aggressive medical and rehabilitative therapy .

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Left Atrial Mass – A Diagnostic Challenge

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[2] Acute Medical Registrar, Leeds Teaching Hospitals NHS Trust, UK

Case presentation

- A male in his 70s was admitted with progressive dysphagia. He had a past medical history of benign oesophageal stricture and permanent AF on Rivaroxaban.
- CTCAP to exclude malignant transformation demonstrated a left atrium (LA) soft tissue mass.
- TTE confirmed a mobile mass measuring 2 x 3.3cm (Figures 1a and 1b). CMR was not tolerated due to claustrophobia and oesophageal stricture location and size precluded the use of TOE.
- Cardiac CT 2 months following the index CT, evidenced a lesion abutting the anterior wall of the LA, reduced in size from 24mm to 12mm (Figures 2a and 2b). Minimal enhancement of the lesion suggested thrombus rather than a vascularised tumour.
- Invasive coronary angiography showed significant CAD. He was accepted for CABG and mass excision. However, repeat CTCAP, following a readmission with dysphagia 4 months later, showed complete resolution of the LA low attenuation mass suggestive of thrombus.

Discussion

- Cardiac tumours are rare with an incidence rate of <0.33 %. Approximately 75 % of cardiac tumours are benign and half of them are myxomas.[1]
- Cardiac thrombus is associated with significant morbidity and mortality if not detected and promptly treated and should be differentiated from benign tumours.

Conclusion

- Our case demonstrates the need for multi-modality imaging and a systematic approach to differentiating cardiac masses.
- Cardiac CT is a useful tool for diagnosing LA appendage thrombus but limited for scanning heterogenous masses such as atrial myxoma.[2]
- In cases of uncertainty, anticoagulation therapy with serial imaging may be appropriate however, histology by surgical excision or on autopsy is usually the gold standard for definitive diagnosis. [1]

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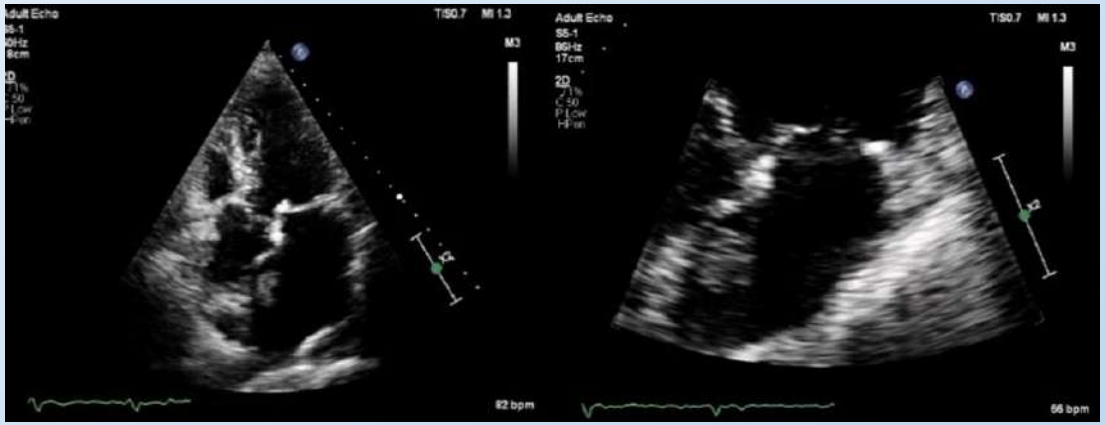
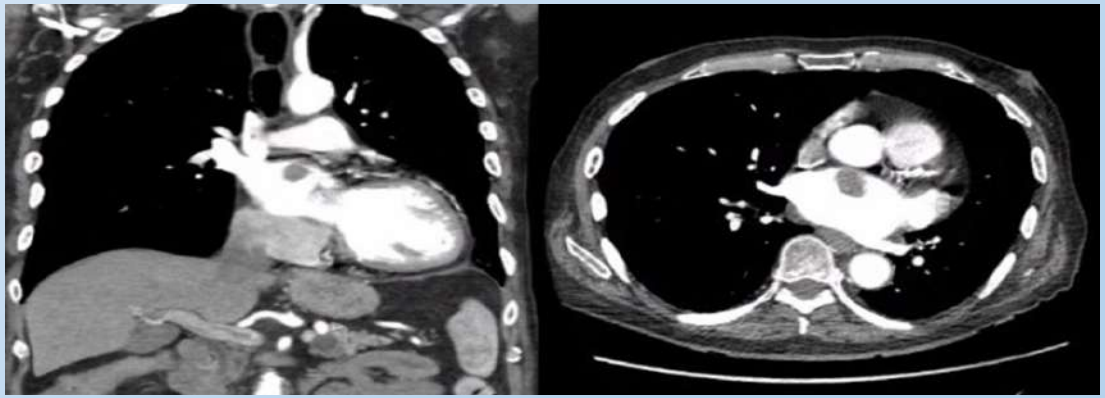


Figures 1a and 1b demonstrating a mobile, left atrial mass on A5C views



Figures 2a and 2b demonstrating a left atrial, soft tissue mass on computed tomography (CT) in coronal (2a) and axial (2b) views

	Myxoma	Thrombus
Location	• Interatrial septum or endocardial border attached by a stalk or pedicle	• Location determined by cardiac pathology
Appearance	• Non-homogenous • Smooth and pedunculated (polypoid) • Villous, less compact and friable (papillary)	1. LA thrombus - Multiple, variable sizes, smooth surface and mobile 2. LV thrombus -Smooth or irregular and highly mobile
Morbidity & Mortality	• Thrombo-embolic formation • Direct embolisation • Valvular incompetence/stenosis	• Direct embolisation • Valvular incompetence/stenosis

Table 1 differentiating features of myxoma and thrombus in cases of a cardiac mass. [2]

Things are not always as we think they are – a case of unilateral pulmonary oedema

James Tomlinson[1] and Maged El-Gaaly[2]

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[2] Acute Medical Registrar, Leeds Teaching Hospitals NHS Trust, UK

Case presentation

- A male in his 70s with a 33mm Carbomedics mechanical mitral valve, presented with increasing breathlessness. He was afebrile and tachypnoeic at rest, requiring 60% humidified oxygen. CRP and NT-proBNP were elevated at 34mg/L and 9031pg/ml respectively.
- CXR demonstrated a right perihilar airspace density projected in the basal portion of the right upper lobe. Despite treatment with IV antibiotics, he deteriorated. Repeat CXR showed bilateral pulmonary infiltrates consistent with features of pulmonary oedema.
- Trans-thoracic echocardiogram (TTE) revealed dehiscence of the mechanical mitral valve and severe, anteriorly directed, paravalvular mitral regurgitation (MR). TOE confirmed TTE findings of severe, paravalvular MR due to mechanical mitral valve dehiscence ***(Figures 1a and 1b)***.
- Repeat CXR following diuretic therapy showed resolution of peri-hilar airspace shadowing suggestive of treated heart failure **(Figures 2a and 2b)**.

Discussion

- Unilateral pulmonary oedema represents only 2% of cardiogenic pulmonary oedema presentations and has a 7-fold higher mortality than bilateral pulmonary oedema, usually due to delayed or missed diagnosis. [1]
- Dilatation and plethora of the right upper pulmonary vein results in airspace opacification within the right upper lobe, resulting in CXR appearances which are often mistaken for consolidation. Unilateral pulmonary oedema is usually caused by severe, eccentric MR. [2]
- Elevated NT-proBNP levels may help to differentiate unilateral cardiogenic pulmonary oedema from other causes of infiltrative CXR changes. TTE, in combination with TOE, provides greater specificity and sensitivity for the diagnosis and aetiology of mechanical valve failure. [1, 2]

Conclusion

- Acute, prosthetic valve failure should be suspected in cases failing to respond to antibiotic therapy and progressive CXR changes suggestive of acute, decompensated heart failure. Mechanical valve dehiscence is associated with high morbidity and mortality. [3]

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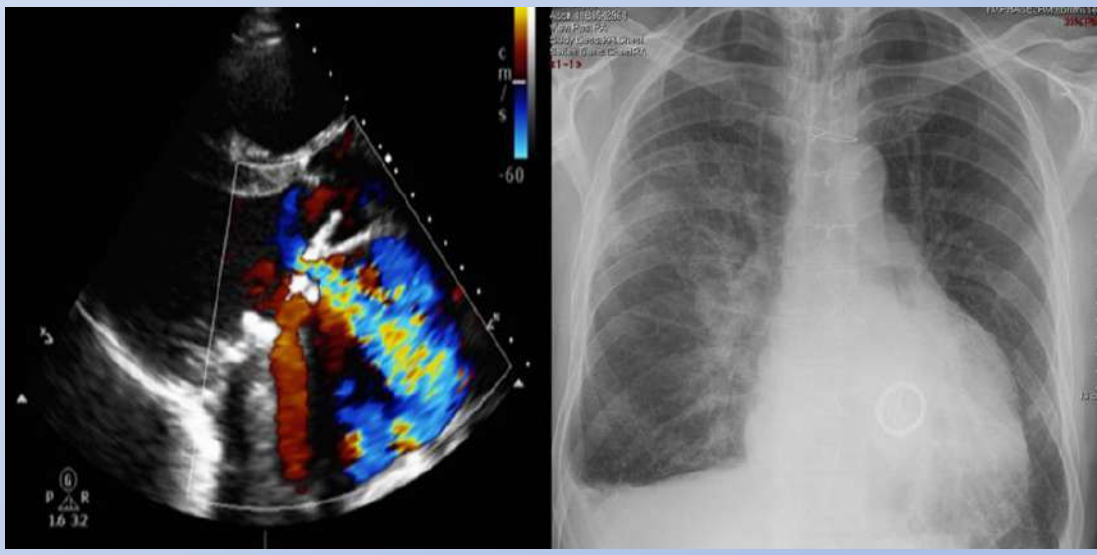
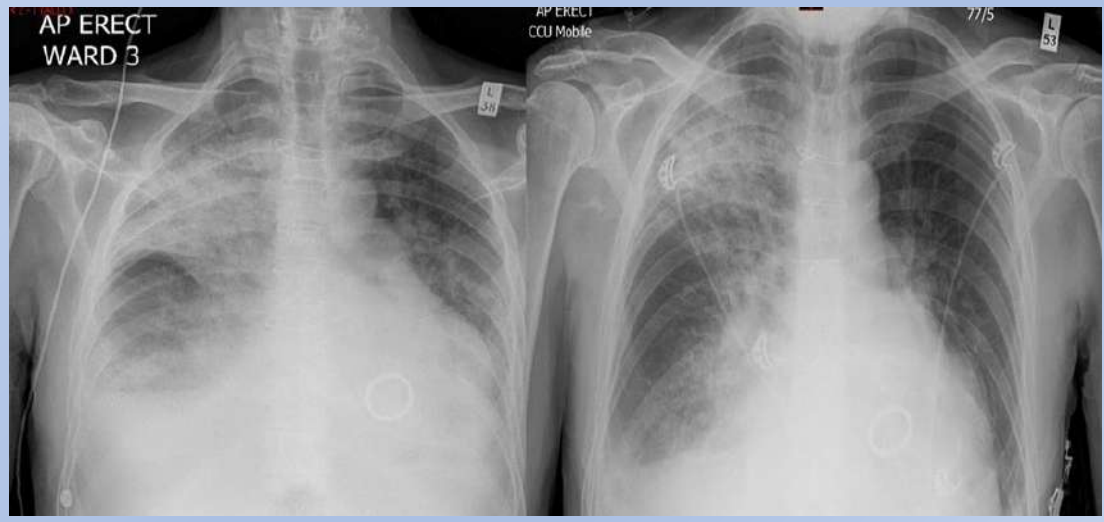
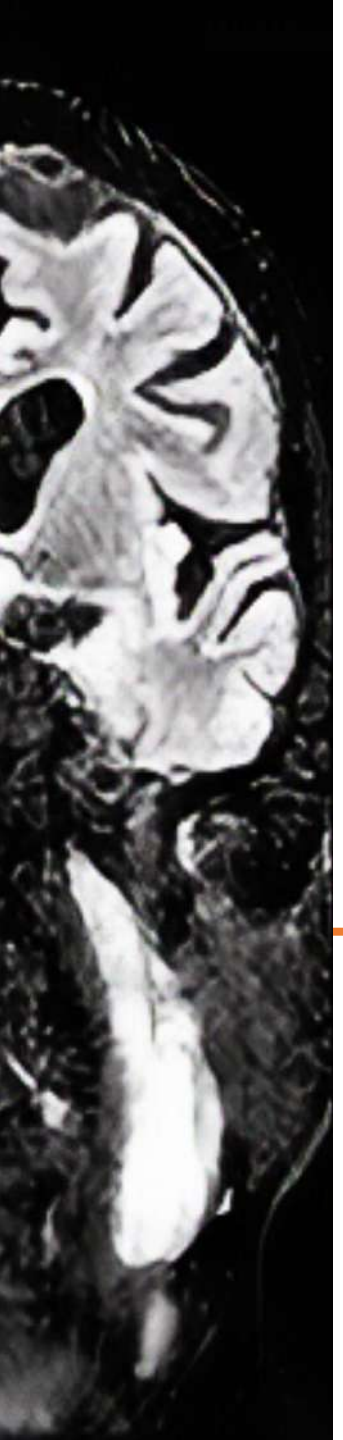


Figure 1a and 1b (Left) TTE PLAx 2D colour with anteriorly directed, paravalvular MR Jet. (Right) Right upper lobe perihilar air space density on CXR suggesting early evidence of unilateral pulmonary oedema.



Figures 2a and 2b (Left) CXR image showing progressed coexistent heart failure. (Right) CXR after Intravenous diuretics showing an improvement in the perihilar airspace shadowing likely related to heart failure



A Rare Presentation of Geriatric Non-epileptic Seizures Due to Carotid Artery Encasement of a Diffuse Large B-Cell Lymphoma: A Case Report

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Introduction

Geriatric seizures is the third most common disease of the nervous system in the elderly.[1-2] Diagnosis can be extremely difficult in elderly patients especially when symptoms can be due other reasons such as syncope.[3] **Misdiagnosis can occur** due to inadequate history, symptoms miscontrued as seizure activity, hyper-emphasis on family history of epilepsy, and overinterpretation of minor EEG abnormalities.[4]

Case Presentation

1

75 year old male

Past Medical History
Transient ischaemic attack
Ischaemic heart disease
Alzheimer's dementia
SCC-in situ of the skin

- ☑ **Left-sided facial droop**
- ☑ **Ipsilateral upper and lower limb weakness**
- ☑ **Difficulty swallowing**
- ↻ **Resolving in 24 hours**

Plain CT Head and MRI Head (TIA protocol) excluded any acute intracranial pathology

EEG showed no epileptiform waves

Recurrent vacant episodes and tonic-clonic jerky movements

Cardiac syncope suspected
Permanent pacemaker inserted

Levetiracetam started

2

5 admissions over 3 months

Multiple medical emergency calls due to vacant episodes

Prior to each episode:
- ✓ Hypotension
- ✓ Desaturation
- ✓ Absence of reflex tachycardia
- ✓ Spontaneous & rapid recovery

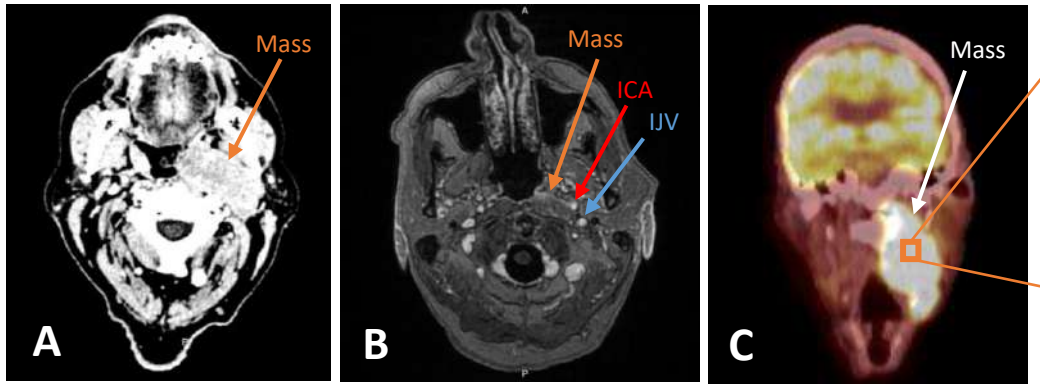
Triggered re-evaluation of previous neuroimaging - showed a suspicious lesion in left carotid space

3

Figure A. Axial CT head with contrast

Figure B. MRI head T2W post gadolinium

Figure C. CT FDG-PET



A 5.3 x 2.5 x 6.9 cm soft tissue mass in the left carotid space encasing the internal carotid artery and compressing the internal jugular vein with extension to the skull base

Diffuse Large B-Cell Lymphoma
ABC Subtype
Double expresser (BCL2+, MYC protein)
Ki-67 index of 100%
Pola-R-CHOP chemo

Immunohistochemistry

Significantly reduced non-epileptic seizure episodes

Discussion

- There is an increasing diagnosis of geriatric seizures with 50% of reported cases found to have an underlying etiology.[1]
- Syncope should be differentiated from seizures which is evidenced by the brief convulsive jerks and vacant episodes and rapid recovery in this patient.[4]
- **The diagnosis of DLBCL in this patient indicate that the location of the tumour is important in determining the functionality that is affected.[1]**

Conclusion

Seizures can be easily misdiagnosed in the elderly population and it takes careful history and attention to signs and symptoms to reach an accurate diagnosis. **Geriatric patients who present with non-epileptic seizures must be assessed extensively for secondary factors that these patients can commonly suffer from**.

ACUTE RENAL EMBOLISM IN ATRIAL FIBRILLATION ASSOCIATED WITH RHEUMATIC MITRAL STENOSIS

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Case

A 56-year-old female with a history of mild rheumatic mitral stenosis presented to A&E with new fast atrial fibrillation (AF). She was discharged home after rate control with bisoprolol. She was not started on anticoagulation as her CHA2DS2-VASc score was 1 (for female sex). She returned to A&E five days later with a one day history of left sided abdominal pain, radiating to her left shoulder/scapula and left arm. On admission, she was again in fast AF.

Investigations:

- CT abdomen showed severe right renal atrophy, and an area of low attenuation medially within the left renal upper pole and posteriorly at the left lower pole, consistent with left renal infarcts.
- CT pulmonary angiogram excluded pulmonary embolism.
- Bloods showed stable renal function with creatinine 74umol/L and eGFR 72mL/m/1.73m.
- Echocardiogram revealed mild to moderate mitral stenosis with a dilated left atrium with a left atrial end-systolic volume index of 75mL.

Management:

- The patient was started on warfarin with bridging dalteparin
- Arterial and venous phase renal CT after 6 weeks showed maturing left renal infarcts at the upper pole, lower pole and dorsal midzone, and a normal calibre and normal enhancing main left renal artery and visualised branches. It also showed chronic right renal atrophy with a chronically attenuated main right renal artery.

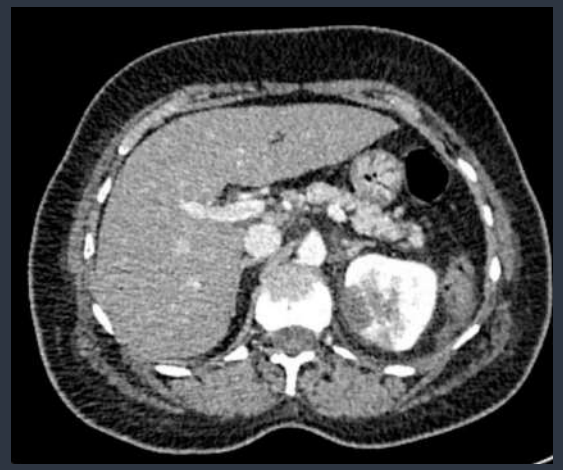

Image 1 : CT demonstrating thromboembolic renal infarcts

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Discussion - Anticoagulation in patients with Rheumatic Mitral Stenosis

Rheumatic heart disease is a well documented cause of mitral valve stenosis, and is associated with an increased risk of thromboembolism, independent of the underlying rhythm.

The increased risk of thromboembolism in this group of patients has led to the proposal of functional categorisation of patients with AF into two groups (1):

Group 1	Group 2
Moderate to severe rheumatic mitral stenosis and mechanical prosthetic valve replacement. These patients require intense anticoagulation with oral vitamin K antagonists	Valvular heart disease other than moderate to severe rheumatic mitral stenosis, bioprosthetic valve replacement or TAVI . This group is suitable for either vitamin K antagonists or a DOAC, taking into consideration the CHADS-VASc score.

Table 1

Should patients with mitral stenosis, but in sinus rhythm and without previous embolic events be anticoagulated?

There is ongoing debate whether this cohort of patients should be anticoagulated (2). Rheumatic mitral stenosis in sinus rhythm will progress to AF in 3.5%/year and to all cause death or systemic embolism in 2.1%/ year. The risk increases with enlarged left atrial dimensions, and as such, this necessitates focused follow up for early detection of AF and associated clinical events (3).

Observational studies have shown that vitamin K antagonists are the oral anticoagulation drug of choice in patients with rheumatic mitral stenosis (4) . In patients with mitral stenosis in sinus rhythm, anticoagulation to a target INR of 2-3 is indicated when there has been prior embolism, or a thrombus is present in the left atrium (recommendation class I, level of evidence C), and should be considered if TOE shows an enlarged left atrium (M-mode diameter > 50mm or LA volume > 60ml/m2 (recommendation class IIa, level of evidence C) (5).

Key learning points

- **Consider thromboembolic phenomena in symptomatic patients with atrial fibrillation regardless of CHA2DS2-VASc score**
- **Rheumatic heart disease and mitral stenosis in themselves are prothrombotic**
- **Consider anticoagulation in this cohort of patients even in sinus rhythm if the left atrium is dilated**

Cocaine Levamisole Associated Auto-Immune Spectrum: A Case Series

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Introduction

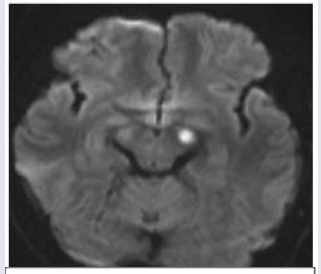
Cocaine use is rising with easy accessibility. Cocaine was second most commonly used drug in UK in 2018-19 (2.9% adults between 16-59 years).

Many pathologic features of cocaine abuse are related to Levamisole. Levamisole was previously used as anti-helminthic but was banned by USFDA in 2000. It potentiates the effects of cocaine and is used as cutting agent to increase cocaine volume. Adulteration of cocaine with Levamisole has increased from 5% (2006) to 80% in recent years (USDEA data).

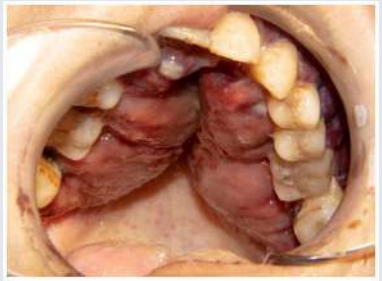
Aim of our submission is to highlight cocaine levamisole associated auto-immune spectrum of positive antibodies and auto-immune syndromes.

Methods

We report 6 cases of cocaine abuse presenting at Basildon University Hospital. Each case represents a unique clinical and immunological scenario. (Table 1)



MRI Head: Acute left cerebral peduncle Infarct. Right frontal SAH



Necrotic Hard palate ulcers

Results

Male:female ratio was 5:1. Mean age was 44.83±8.76 years (range of 37-62 years). Mean duration of cocaine abuse was 12.83±9.46 years. All 6 patients accepted cocaine abuse on questioning. Snorting is preferable due to longer-lasting effects (1-3 hours) vs smoking crack (15-30minutes). Snorting is associated with Cocaine-Induced Midline Destructive Lesions (CIMDL) of nasal septum & hard palate. Retiform purpura is related to levamisole.

Table 1: Demographic, Clinical Presentation, Investigations and Management of patients with Cocaine Abuse

Age Sex	Presentation	Clinical findings	Cocaine use & method	Investigations	Serology	Diagnosis	Treatment & follow-up
38 F	Nasal discharge	large nasal septal perforation	3 years Snorting	Nasal biopsy- No classic granuloma	Positive p-ANCA Positive anti-PR3	Limited Granulomatosis with Polyangiitis	Oral steroids Septoplasty Doing well
62 M	Sepsis	Retiform purpura Hard palatal ulcer	30 years Snorting	Bilateral Pulmonary embolism & consolidations	Could not be done	Septicaemia	Died in Critical Care Unit
37 M	Polyarthritis	Dupuytren's contractures	10 years Smoking	US hands -Synovitis	Positive p-ANCA Positive anti-PR3	Cicatricial Polyarthritis	Oral steroids Good response
42 M	Acute leg Ischaemia	Absent posterior tibial pulse	4 years Smoking	Posterior tibial artery thrombosis	Lupus anticoagulant twice positive	Antiphospholipid Syndrome (APS)	Warfarin Did not attend clinic
50 M	From Cardiology	No features of vasculitis	10 years Smoking	CMRI -Severe dilated cardiomyopathy	Positive p-ANCA Positive anti-MPO	No clinical vasculitis	Discharged
40 M	Recurrent strokes	Hard-palate ulcers skin purpura	20 years Snorting	Cerebral infarcts, SAH, DVT leg, Oral biopsy -No classic granuloma	Positive ANA, anti-dsDNA, atypical ANCA, lupus anticoagulant & anti-cardiolipin Abs	Lupus, APS, vasculitis Syndrome with cerebral & ENT manifestations	Oral steroids Azathioprine HCQS Doing well

Purpuric rash leg

Urine drug testing

Conclusions

Cocaine & levamisole act as hapten to induce auto-antibodies by mechanism of *Neutrophil Extracellular Traps (NET)1*. Interplay of dose, duration, frequency, mode of administration & degree of levamisole adulteration seem to play a role in pathophysiology. Lupus, ANCA vasculitis and antiphospholipid syndrome are all described in patients with cocaine abuse.

We propose use of terminology 'Cocaine Levamisole Associated Autoimmune Spectrum', which would help address varied clinico-immunological presentations rather than labels such as '*Vasculitis Mimic*'.

Eliciting drug history is crucial to establish diagnosis. Urine toxicology is useful but would be negative if there is lack of recent use. Initial treatment should be focussed on cessation of drug exposure.

References

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A Case of A Multisystem Autoinflammatory Disease Mimic

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Clinical Presentation

A 60-year-old male presented with a **multisystem autoinflammatory disease** of **unclear aetiology**. For several years, the patient had **recurrent flares** of a constellation of symptoms, including purpuric rash, arthropathy, lymphadenopathy, night sweats, parotid swelling and constitutional symptoms (e.g., fatigue, pyrexia, myalgia and weight loss).

Multiple diagnoses were made including ANCA negative pauci-immune vasculitis, but the patient **failed to respond to conventional immunotherapy**.

Investigations

Investigation	Result
Inflammatory Markers ESR CRP	 125mm/hr 235.1 mg/L
Ferritin	644ng/mL
Haemoglobin	96g/L
Beta-2-Microglobulin	2.8mg/L
Immunology (e.g. Immunoglobulins, ANA, RF, ANCA, connective tissue disease screen, tissue autoantibodies, complement, paraproteins, serum light chains)	Within normal range.
Virology (e.g. cytomegalovirus, treponemal screen, hepatitis B and C, HIV serology)	Negative

Table 1. Laboratory Investigation Results at Initial Presentation.

Imaging:
- CT Thorax: nodular lung changes
- PET CT: diffuse FDG update in skeletal tissue and spleen

Biopsy:
- Skin and parotid biopsy: lymphoproliferative infiltrate. Negative IgG staining.
- Bone marrow biopsy: disordered marrow architecture, and vacuolation in myelocytes.

Genetic Sequencing: mutation affecting methionine-41 in the UBA1 gene.

Bone marrow and genotypic findings consistent with a diagnosis of **VEXAS Syndrome**.

VEXAS Syndrome

VEXAS syndrome is an acronym comprised of the key features of the disease.[1]

V – Vacuoles
E – E1 Enzyme
X – X-linked
A – Autoinflammatory
S – Somatic

Management

- Management involved a **multidisciplinary approach**.
- No improvement with high dose glucocorticoids and several immunotherapies.
- Glucocorticoids resulted in the development of steroid-induced diabetes and myopathy.
- The patient remained unwell with worsening anaemia, bone marrow dysplasia and transfusion dependence. **Haematopoietic stem cell transplantation** was later performed which has resulted in significant improvement.

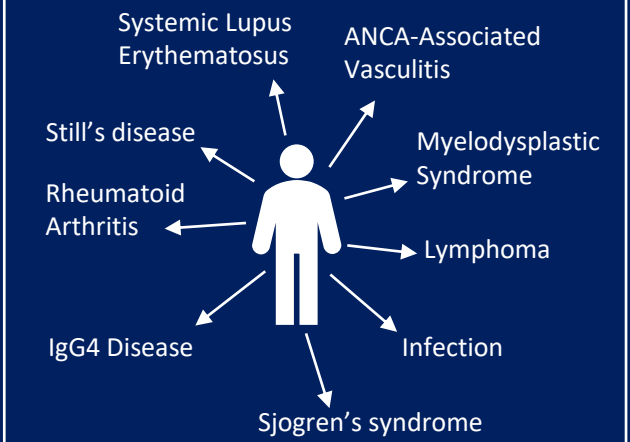

Figure 1. VEXAS Syndrome Mimics.

Discussion

VEXAS syndrome should be considered in **male** patients who present with **multisystem autoinflammatory symptoms** associated with **haematological abnormalities** who fail to respond to conventional treatment. This is important as many conditions mimic VEXAS syndrome (Figure.1)

Treatment is challenging with no evidence-base available. Only a handful of reports exist describing variable success to different immunosuppressive therapies.[2-4]

Despite being a relatively new pathological entity, recent case reports and published literature suggests VEXAS syndrome is becoming increasingly recognised, and **further research on genetics, diagnostics and treatments are needed**.

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Scleroderma/Juvenile Dermatomyositis Overlap Syndrome in a Teenager — A gripping diagnosis

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Sandwell and West Birmingham Hospitals NHS Trust

Case History

- A 14-year-old Caucasian female was referred to Dermatology by the Orthopaedics team.
- 3 year history of scaly rashes on the face, elbows, knees, hands and feet, with the latter two areas worse in cold weather.
- History of Raynaud's phenomenon and muscle weakness.
- Mum has a history of Type 1 Diabetes, Vitiligo, and Thyroid disease.

Examination

- Microstomia and Centrofacial scaly papules.
- Gottron's papules on the knuckles, sclerodactyly of her hand and feet bilaterally, along with scaly patches on the feet and knees.
- Few sclerotic patches on the outer forearms.
- Proximal muscle weakness and a positive Gower sign.
- **Abnormal Nail fold capillaroscopy.**

Investigations

- Myositis screen: **ESR (39mmol/h), creatinine kinase (1245U/L), strongly positive PM-SCL 100 and 75.**
- Autoimmune screen: **positive ANA (speckled/nuclear, 1:1280**), **weakly positive DsDNA, C4 (0.12), RhF (53.8iu/L)**negative ENA (Jo1, scl70, Ro and La) and negative Anti- TPO.
- **Vitamin D (19nmol/L)** and **ALP (48U/L).**
- **MRI – Pelvic girdle myositis – see figure 1.**
- Patch testing to allergens in the British Standard Series and other relevant Series was negative (Done by Dermatology).

Management and Follow Up

- Dermatology referred to a tertiary Paediatric Rheumatology Centre.
- Additional input from Occupational Therapist and Physiotherapists.
- Initiated on Prednisolone, Hydroxychloroquine, Nifedipine, Methotrexate and Rituximab.
- Improving muscle power, skin changes and biochemical markers ESR (2mmol/h) and CK (260U/L).

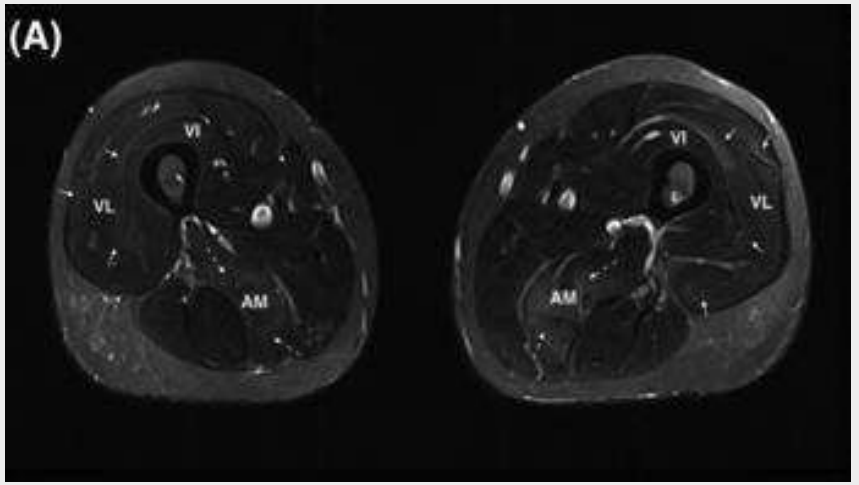

Figure 1: High muscle T2 signals in myositis: (A) Thigh muscle MRI in Scleroderma/myositis overlap showing mild muscular inflammation. Normal muscles appear with a very low signal (close to the subcutaneous tissue after fat signal suppression).

Discussion

- **Overlap syndrome:** Occurrence of at least two connective tissue diseases at the same time or at different times in the same patient.
- Cases of dermatomyositis/scleroderma overlap syndrome described in adults but very rarely in children.
- Patients present with both features of scleroderma and juvenile dermatomyositis but lack specific autoantibodies of individual connective tissue diseases.
- Main antibodies are **Anti-PM Scl-75** and **Anti–PM Scl-100.**
- Treatment is with corticosteroids, steroid sparing immunosuppressive agents and Rituximab.
- Differential diagnosis of overlap syndrome should be considered in Paediatric patients presenting with atypical manifestations of connective tissue diseases to a range of specialties.
- It typically runs a benign course and requires input from multiple specialties as this case has demonstrated.

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A Case of Embolic Stroke and Failed Treatment with Anticoagulation with Papillary Fibroelastoma

Dr Katie Hyde, Dr Khalid Rashed

NHS Somerset NHS Foundation Trust

Introduction

Papillary Fibroelastoma (PFE) is a primary, benign cardiac tumour that carries a high embolic risk.[1] It is a rare but increasingly recognised cause of stroke.[1-3] We present the case of a patient presenting with embolic strokes caused by a PFE and will discuss the relevant literature regarding diagnosis and management.

Case History

A 38 year old woman initially presented to our service in 2017 with a transient headache, associated with left arm weakness and reduced sensation in the left upper limb. MRI revealed multiple embolic infarcts in both cerebral hemispheres (Figure 1). She was subsequently diagnosed with a PFE on a transthoracic echocardiogram (TTE) and commenced on Apixaban for anticoagulation (Figure 2).

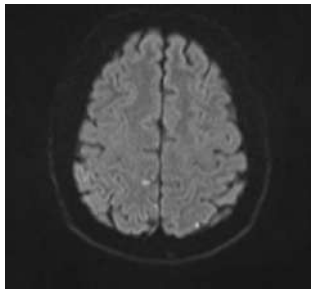

Figure 1- MRI scan Oct 2017 showing tiny multiple focal infarcts in the right medial parietal and left parieto-occipital lobes.

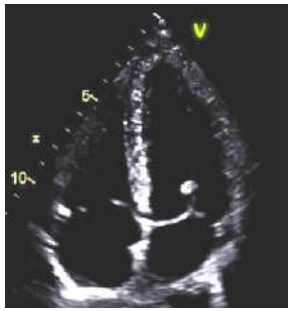

Figure 2- four chamber apical TTE image showing Papillary Fibroelastoma on the mitral valve.

Case continued:

A transoesophageal echocardiogram (TOE) was performed to evaluate the lesion further (Figure 3). Despite compliance with anticoagulation she had a further embolic episode in 2022, with symptoms of right hand weakness and poor coordination. MRI revealed acute infarcts in the right cerebellum and left parietal regions (Figure 4). The patient underwent successful surgical removal of the PFE following this. The diagnosis was confirmed with histology. The patient has since made a complete recovery. She took aspirin for three months postoperatively but long-term anticoagulation is not required. We reviewed the current evidence base for the diagnosis and management of PFE.

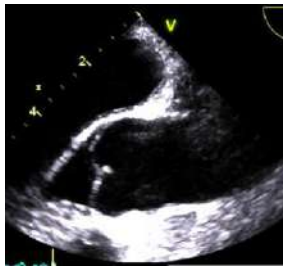

Figure 3- TOE image showing likely papillary fibroelastoma on mitral valve

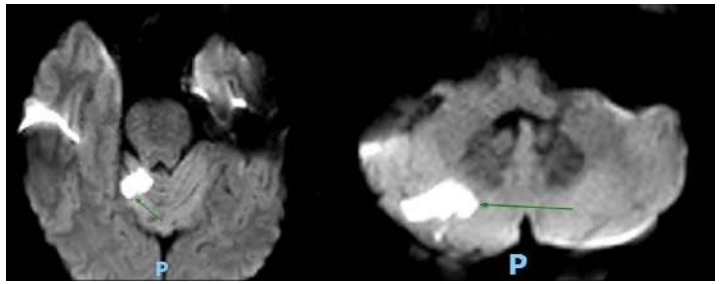

Figure 4- MRI scan Oct 2022 showing Acute infarcts involving the right half of the cerebellar hemisphere, with subacute infarcts in the right parietal region.

Discussion

Current literature suggests surgical excision should be considered first line treatment for symptomatic PFE. Mechanisms of emboli formation include tumour shedding and clot formation.[4] As a result, patients remain at risk of embolic stroke despite anticoagulation.[2] Surgical intervention with resection of the tumour is a curative measure, avoiding long-term anticoagulation.[1] The long-term outcomes have been shown to be favourable.[1-3,5] Evidence also suggests the importance of TOE in the evaluation of cryptogenic embolic stroke; it is estimated that the cause of stroke remains unclear in up to 30% of patients with an ischaemic stroke, and it is apparent that TTE may miss cases of PFE.[1,4, 6-8]

There have been case reports of papillary fibroelastoma identified on pathological analysis of thrombus retrieved at mechanical thrombectomy.[9] With the increase in endovascular management of stroke, routine histopathological analysis of clot material may offer a means of identifying the source of the embolus.[9]

Conclusions

We conclude that first line treatment of PFE should be surgical excision if the patient is fit for surgery. We suggest that a TOE should be considered in young people with cryptogenic stroke in the context of a normal TTE. Routine histopathological examination for samples retrieved at mechanical thrombectomy may aid in identifying the source of emboli.

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Bottle Gourd (Lagenaria Siceraria) Toxicity: A Rare Case Report

ABSTRACT

- Background: Bottle Gourd juice usage has been known to be a healthy practice in the rural parts of India. In recent times, the knowledge of fitness, exercise and practice of yoga and meditation has increased the consumption of this juice in both urban and suburban areas.
- Bottle gourd juice contains a compound called *Cucurbitacin's*. Hypotension, hematemesis, and vomiting has been a fatal presentation of bottle gourd juice toxicity when consumed in excess due to its cytotoxic effects.

KEY WORDS

- Bottle Gourd Toxicity.
- Capillary Leakage.
- Shock.
- Sepsis.

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Bottle Gourd Plant

Bottle Gourd

INTRODUCTION

- Bottle gourd belongs to the Cucurbitaceae family which has over 750 species: Cucumber, Bitter gourd, Pumpkin, Watermelon, Eggplant, Squash, Colocynth, Zucchini.
- Its commonly known as *Lauki* in Hindi, which is a common vegetable grown in India and in the tropics and subtropical worldwide. The fruit believes to have cardio protective, diuretic and nutritive properties. Early morning consumption on an empty stomach is considered a remedy for diabetes, heart disease, hypertriglyceridemia, constipation, liver disease, urinary tract disease, depression, etc.
- The plant produces *cucurbitacin* which is a bitter compound that acts as a defense mechanism against insects and other herbivores. In some instances, the excess concentration of this chemical compound grown under poor / non-conducive environmental state like drought, poor soil quality and extreme temperature may alter the nutritive value of the fruit juice.
- Studies have shown that *cucurbitacin* has a promising pharmacological properties but increased levels lead to toxicity, capillary leak, hypotension, polyneuritis. The lethal dose in mice is 1.2mg/Cuca/kg. Levels more then 130ppm can cause symptoms in adults.
- In some instances, the consumption of this juice can become dangerous and even life threatening due to the lack of standardization of preparations.

CASE REPORT

- **Presentation**

A 62 year old gentleman presented to our hospital on the 23rd November 2022, referred from a private nursing home with symptoms of severe vomiting and loose stools. He was already started on IV Noradrenalin (double strength) @ 10ml/hour (0.33mcg/kg/min) as BP was not recordable on arrival at the nursing home.

- **History**

On detail history and evaluation, patient was asymptomatic until 7am on that morning where he consumed a glass full of bottle gourd juice. He did mention that the juice was extremely bitter. This was his first glass of juice after 2 years. He was taking the juice on and off, 2-3 years prior. All juice were made fresh from the fruit which he grinded in a juice-maker. He developed symptoms within 3-5 minutes of consumption.

The first symptom was vomiting, which occurred 5 minutes after consumption and continuous in nature, followed by loose motions which occurred after 1 hour. There was one episode of hematemesis.

- **Past History**

Patient is a known case of Diabetes and Hypertension on regular oral hypoglycemics and anti-hypertensives.

- **Differential diagnosis**

Acute Gastroenteritis with Hypovolemic shock.

- **Examination/Management**

Patient was conscious, oriented with cold and clammy extremities. Peripheral pulse was feeble with tachycardia (PR: 160/min, low volume), Oxygen saturation was 95% on room air, systolic BP was 80mmHg on IV Noradrenalin (double strength)@10ml/hr (0.33mcg/kg/min). Ryle's tube was inserted and frank blood aspirated, free flow.

Random blood sugar was 304mg/dL.

Systemic examination revealed tenderness over epigastrium with no organomegaly, chest was clear with normal heart sounds. Electrocardiogram showing sinus tachycardia. Right internal jugular vein was canulated and patient was resuscitated with fluids and started on broad spectrum antibiotics and treatment for his diabetic state.

- **Finale**

Patient became hemodynamically unstable with a drop in GCS the next morning (24th November 2022) and was electively intubated and IV Vasopressin @ 2.5ml/hr (1.6U/hr) was added. ABG post intubation showing metabolic acidosis which was then corrected. Patient did not show significant signs of improvement and arrested at 12.40pm the same day. CPR commenced based of ACLS guidelines, 4 doses of adrenalin and 1 dose of Calcium gluconate was given. Despite our efforts, we were unable to revive the patient.

DISCUSSION

- Its scientific name Lagenaria Siceraria, a fruit produced by a fence creeper. The fruit has a pheromone known as *cucurbitacin* which gives it a bitter taste.
- There are 4 subtypes of *cucurbitacin* : B,D,G & H.
- The *Cucurbitacin D* is most potent and has shown increase capillary permeability which in turn reduces blood pressure. Toxicity in humans is primarily due to this compound. The ethanolic extract of this fruit, however shows antihepatotoxic and antihyperlipidemic activity in rats.
- Cooking the fruit however denatures all the cucurbitacin and is said to have cardiac and hepatorenal protective properties.

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Fever, Rash & Polyarthritis – the importance of thinking about STIs within the Acute Medical Take

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The Leeds Teaching Hospitals NHS Trust

Introduction

- Sexually Transmitted Infections (STIs) diagnoses in England increased phenomenally in 2022.[1]
- Increases in gonorrhoea and syphilis rates in 2022 (50.3% and 15.2% respectively) compared to 2021.[1]
- Undiagnosed STIs can lead to extra-genital systemic syndromes, increasingly presenting to secondary care.[2]

We present a case-series of complex STIs diagnosed within an Acute Internal Medicine (AIM) department at an acute trust where England's first dually accredited GUM-Internal Medicine Consultants work.

Methods

A retrospective case note review of 6 patients referred to an integrated sexual health service (June-Dec 2023) with systemic STI syndromes/presentations, diagnosed within the AIM department at the same trust.

Results

Demography	Presentation	Diagnosis	Place of diagnosis	Time to diagnosis	Attended Sexual health services?
39, Male, WB, HI-MSM	Febrile illness, rash	Secondary syphilis	SDEC	4 days	Yes - started on PrEP
51, Male, WB, MSM	Febrile illness, night sweats, rash	Secondary syphilis	SDEC	45 days	Yes
58, Male, WB, MSM	Headache	Syphilitic meningitis	AIM ward	6 days	Yes
29, Male, WB, MSM	Rash, deranged liver function tests	Primary syphilis	SDEC	10 days	Yes - started on PrEP
42, Male, WB, Heterosexual	Polyarthritis, rash	DGI with pharyngeal gonorrhoea	AIM ward	8 days	Yes
32, Male, WB, HI-MSM	Polyarthritis	DGI with rectal gonorrhoea	AIM ward	10 days	No - absconded

Table 1 – Summary of cases

Abbreviations: HI-MSM – heterosexually identifying men who have sex with men, DGI – disseminated gonococcal infection, SDEC – same day emergency care, PrEP – pre-exposure prophylaxis for HIV, WB – White British, AIM –Acute Internal Medicine.

Discussion

STIs presenting to non-sexual health settings can be more challenging to diagnose and delay time to treatment due to limited clinician knowledge around sexual history taking, diagnosing and investigating STIs.[3]

Syphilis, the great mimicker, can affect almost every organ, presenting with a vast array of signs and symptoms. Hence, it is important that medical specialists recognise and understand the different stages of syphilis and how it may present in their patient cohort.

DGI, classically, presents with a triad of tenosynovitis, dermatitis & migratory polyarthritis and is reportedly more common in women.[4] With increasing gonococcal infection rates in MSM and rising antimicrobial resistant strains, we may be seeing a change in the clinical presentation and epidemiology of DGI.

Conclusion

Alongside blood-borne viruses testing, syphilis and other common STI screening should be included in the investigation of certain clinical presentations, such as those reported in our results.

Locally, we are liaising with medical specialties to take the following actions:

- To include appropriate STI investigations in request ordering panels within our electronic patient record.
- To introduce sexual health teaching sessions in the AIM teaching rota. It could increase the multidisciplinary workforce's knowledge and awareness of systemic presentations of STIs and lead to the appropriate investigation and onward referral/management.

As GUM has now become a Group One specialty (dually accrediting in internal medicine), this will greatly help provide knowledge, experience, and training in sexual health in the acute and general medical settings.

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A Rare case of HSV-1 Meningoencephalitis and secondary Bacterial infection

Introduction

Meningoencephalitis is a condition in which both the layer of the covering of brain (meninges)and the parenchyma of the brain become inflamed and infected. If only the meninges is involved it is called meningitis and the latter encephalitis, but meningoencephalitis is extremely rare condition.
The estimated **annual incidence of viral meningitis was 2.73 per 100 000 and bacterial meningitis was 1.24 per 100 00**. The estimate number of cases of meningoencephalitis cases were expected to be lower than this. The clinical features include fever, neck stiffness, photophobia, seizure, unconsciousness

Event of admission

An elderly gentleman in his early 80's was brought in by ambulance to one of South Wales district general hospital regarding reduced consciousness. He went out with his family the night before and had dinner with family. He threw up around midnight and unable to wake up in morning.

PMH- hypertension, Good functional baseline ,
Social- lives with family, keen cyclist (did 15 miles every week)

His GCS initial assessment by paramedics were low (E2 V2 M3) and found to have low grade fever 38.5

Result and finding

His GCS was still low, and he did not have any rashes and his capillary blood glucose was 7.6 . A routine set of blood and CXR , ECG and CT () were arranged. All imaging were unremarkable and routine blood test showed very mildly elevated inflammatory markers although his venous blood gas showed normal pH with raised lactate of 5 and hence CT (abdomen with contrast) was arranged to rule out intra-abdominal pathology.

Empirical treatment with IV Tazocin was started but there was no improvement after 24 hours. Then, **suspicion of CNS infection was raised**, and lumbar puncture was done . The lumbar puncture result was as follow.

Lumbar puncture at presentation

His lumbar puncture result was RBC x3 , WCC 200 (primarily lymphocytes and polymorph) **, Herpes Simplex Type 1 PCR positive and Streptococcus pneumoniae positive in CSF culture**. His CSF glucose were low and protein high 4g/L. He had significant improvement on D4 of IV antibiotics and antiviral , GCS improved to 15/15 and his lumbar puncture was repeated after 2 weeks of treatment.
His MRI head was unremarkable.

Conclusion

Meningoencephalitis is a serious condition which need timely diagnosis, treatment with appropriate antibiotics and antiviral to prevent mortality and morbidity.

Lumbar puncture post treatment

Lin, Ko Ko (London Northwest University Healthcare NHS Trust)

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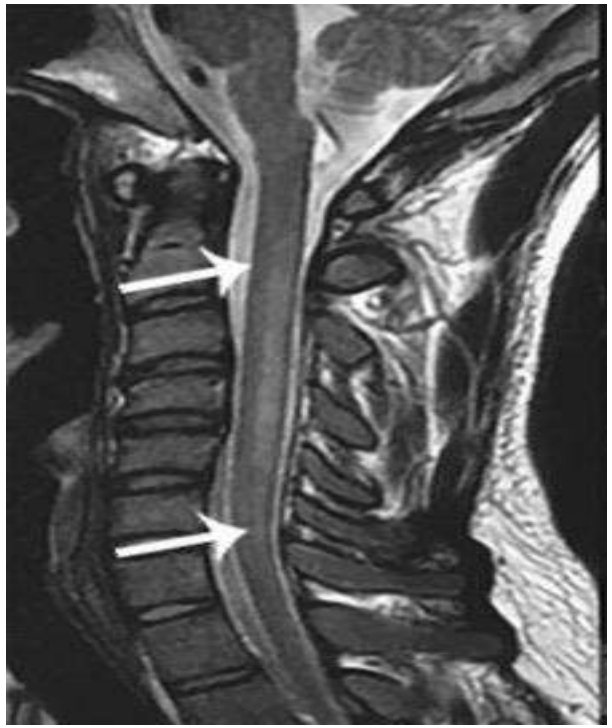
Nitrous Oxide induced spinal cord edema with normal serum B12 level with high plasma homocysteine level

Introduction

Nitrous Oxide (N_2O) widely known as 'Laughing gas" is used as inhaled anesthetic, analgesic in clinical practice. Its abuse has increasingly common among adolescents and young adults. Although it can cause multi system damage, multiple cases of neurology system damage had been reported. Through oxidation, nitrous oxide inactivated B12 and hence inactive B12 is unable to perform as a co-factor for methionine synthase and methyl malonyl-coA mutase

Case presentation

A male patient in his early 20's presented to emergency department with tingling sensation, loss of fine movements and dexterity in both hands for 2 weeks. He was recently presented to emergency after being involved in minor road traffic accidents (Whip lash injury) He had satisfactory imaging with CT head and neck to rule out cervical cord injury at that time. His symptoms were slowly progressed during 2 weeks with no involvement of lower limbs. On detail and thorough history taking, he admitted taking Laughing gas occasional abuse. His upper limb examination showed loss of sensation but preserve motor function, muscle tone and loss of fine movements.



His routine blood tests were unremarkable with normal MCV (mean corpuscular volume,), normal HB (hemoglobin) and low normal B12 level with 200 (Normal 180- 1000 pg/ml) . He had no previous history of B12 , hematological conditions. He had an MRI of head and whole spine to rule out spinal cord pathology which was reported unremarkable. Neurological opinion was sought who correctly pointed out that clinical presentation and findings were suggestive of neurotoxicity due to Nitrous Oxide and suggested that serum B12 level was not reliable to rule out B12 deficiency and MRI was done only axial views. It was incomplete MRI study and suggested to add sagittal views which showed increased intramedullary signal intensity aeras on T2 weighted which consistent with spinal cord edema. His plasma homocysteine level was 100 (normal 5-15 mcmol/L)

Empirical treatment with IM B12 injection started and advised to stop abusing Nitrous oxide and follow up clinic in 3 months. He reports symptoms were resolved and good recovery. His serum B12 level increased to 800.

Conclusion

The previous road traffic injury was red herring for patient's presentation and good social, recreational abuse need to be asked thoroughly in history taking. Serum B12 level is not a very reliable test to rule out B12 deficiency especially in Nitrous oxide induce neurotoxicity. It is important to learn that all imaging modalities need to be done both axial and sagittal view to be able to appreciate pathology. Although , Nitrous oxide was not known to have serious addiction, it is not harmless and may cause irreversible neurotoxicity if not treated early.

Lin,Ko Ko (London Northwest University Healthcare NHS Trust)

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BCGosis-Side effect of a treatment: A rare case report

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ABSTRACT

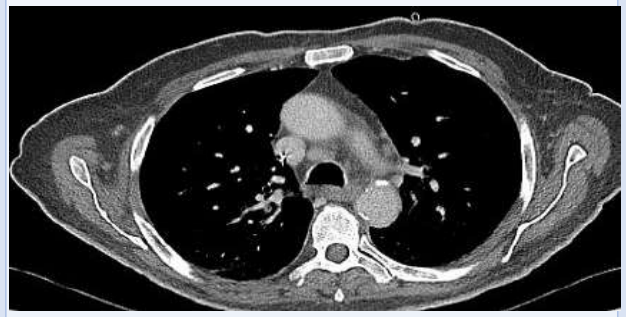
Bacillus Calmette-Guerin (BCG) vaccine is a type of immunomodulatory drug which is not only used for prevention of pulmonary and extrapulmonary tuberculosis but also in treatment of urinary bladder cancer.

When given intravesicular, it acts by decreasing the growth of tumour by cicatrisation and immune system activation. However, it has been reported to have absorbed into the system of some individuals in the past and lead to a widespread systemic inflammatory condition called BCGitis or BCGosis.

Here, we are going to discuss, one such incidence of this rare phenomenon and also highlight the clinical and diagnostic dilemma of such cases!

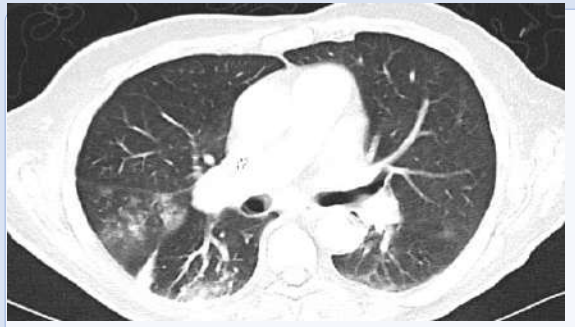
CASE REPORT

An 80 year old gentleman admitted with complains of generalized fatigue since 4-6 months and chronic cough since 4 weeks on the background of SCC of urinary bladder, diabetes, hypertension, PPM in situ and CML. He was seen by a Pulmonologist who raised concerns about lymphadenopathy on chest X Ray and especially due to history of of CML and bladder cancer.

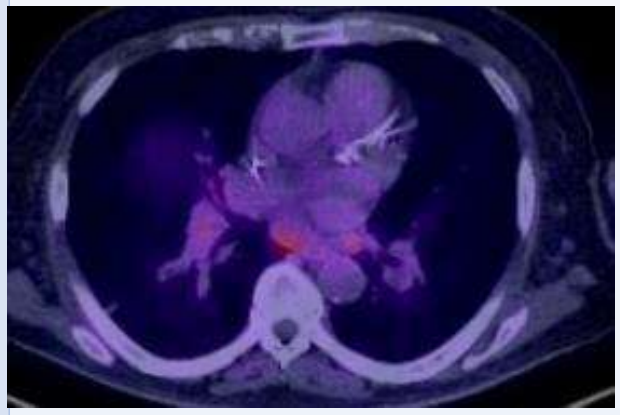


Pic 1 (Mediastinal window-CT)

After a MDT and discussion with Haematologist, a CT scan (Pic 1, 2) were done. This was followed by a PET-CT scan (Pic 3) done as an inpatient.



Pic 2 (Lung Window-CT scan



Pic 3 (PET CT scan)

A biopsy from one of the lymph nodes was also taken which showed "*Non-necrotising granulomatous inflammation.*"

The patient was started on ATT, however, he developed sepsis and succumbed to his illness.

DISCUSSION AND CONCLUSION

Such instances of vaccine induced BCGosis have been described in the past--One such report by Katarzyna Lewandowska et al was published in 2022. Another case (Shrot et al in 2016) reported BCGosis in children with immunodeficiencies.

This case highlights the importance of basics such as a detailed history taking (including treatment history).

It also teaches us importance of good communication, effective MDTs and team work.

1. DOI: 10.1093/jscr/rjab544
2. DOI: 10.1155/2013/821526
3. DOI:10.1016/j.jctube.2020.100149
4. DOI: 10.1016/j.jinf.2012.03.012

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Consultant, Infectious Diseases

Forgotten biliary stents: a retrospective review of practice in a District General Hospital

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Introduction

- Indications for Endoscopic Retrograde Cholangiopancreatography (ERCP) inserted biliary and pancreatic stents include malignant or benign biliary obstruction, biliary leaks, and prophylaxis against post-ERCP pancreatitis. Some stents are non-removable and inserted in palliative cancer cases. Temporary stents are either metal or plastic; time for removal varies with stent type. Stent removal or exchange is required within a recommended time frame to avoid potentially serious complications, such as stent occlusion, cholangitis, pancreatitis, stent migration and perforation.[1-2]
- Multiple studies have raised concerns about the potential for temporary stents to be forgotten by patients and clinicians, with recommendations for a stent registry to be introduced by endoscopy units carrying out ERCPs.[3]
- The aim of this retrospective study was to analyse practice at a District General Hospital and establish if there was a robust plan recorded for stent management. We also reviewed cases planned for removal to establish if stents were removed and the method for removal.

Results

- During the three-year period, a total of 106 stents were placed, mean age was 69 years (27-92), constituting 54 males (50.9%) and 52 females (49.1%). Indications were CBD stones, cholangitis, pancreatic duct stones, strictures (benign & malignant), and bile leak.
- 10 stents (9.4%) were non-removable uncovered metal stents inserted to treat malignant obstruction.
- Of the remaining 96 stents, 73 were plastic stents and 23 were fully covered metal stents. Of these 17 (16.0%) had a plan in place for stent removal, this groups had surgery (Whipple's) or further treatment at another centre which required stent removal, hence did not require a plan for removal in Salisbury hospital.
- Of the 79 stents where removal was required, 55 (51.9%) had a plan for removal recorded on the ERCP report (stent removal or referral to upper gastrointestinal MDT for discussion), but the remaining 24 (22.6%) did not have a plan recorded.
- We followed up the 96 patients who had removable stents inserted to determine number of patients who had stents removed and who had possible stents remaining in situ.
- 20 patients (20.8%) had stents possibly remaining in situ (plastic stents), 7 patients (7.2%) had confirmed plastic stents remaining in situ based on reviewing imaging and letters.
- In 3 patients (3.1%) stents had fallen out and hence did not require removal.
- 27 patients (28.1%) with confirmed stent removal.
- A total of 32 patients (33.3%) died before stent removal and majority had inoperable cancer.
- 5 patients (5.2%) had surgery (Whipple's) or further treatment at another centre which required stent removal.
  1 patient (1%) is currently awaiting stent removal and 1 patient (1%) choice was to continue treatment out of area and unclear status of stent.

Methods

The study population included patients who underwent ERCP with plastic and metal biliary stent placement from November 2020 to November 2023.
We analysed the indication for stenting, type of stent placed, stent removal or exchange plan, and present status of stent by accessing electronic patient records, imaging and ERCP reports.

Results

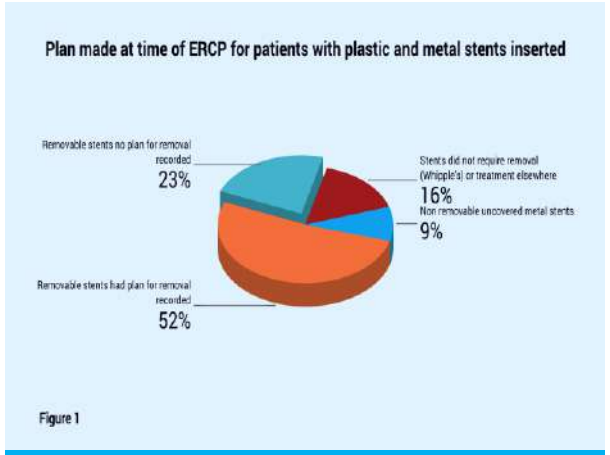

Figure 1

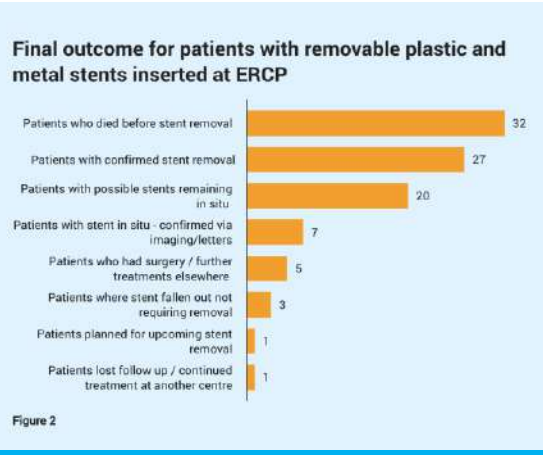

Figure 2

Conclusion

Forgotten biliary stents is an area of concern in many centres across the UK. Measures need to be taken to ensure every temporary biliary stent placed has a robust plan for removal or exchange. Salisbury hospital uses a digital reporting platform to record ERCP procedures which can be used to track all stents inserted.
In response to these findings, we are introducing an ERCP checklist, and a registry of all removable stents placed. Short message service reminders are also being considered and could significantly increase patient adherence. We hope this will decrease the number of stent-related complications in our population.

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Mother Knows Best - Managing the Post Partum Respiratory Patient

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Case History

A 29 year old woman, 5 days post-partum, presented to the medical assessment unit with acute onset shortness of breath and chest discomfort.

She had given birth 5 days prior via normal vaginal delivery following an uneventful pregnancy. She had no past medical or family history of underlying respiratory disease. She was a non-smoker.

On examination she was talking in full sentences, not tachypnoeic and oxygen saturations were 97% on air. Heart rate and BP were normal. Her trachea was central, and she had normal expansion of her chest. Percussion elicited a resonant note bilaterally. On auscultation, she had reduced breath sounds on the left compared to the right. Her cardiovascular examination was normal and there were no clinical signs of venous thromboembolism.
Her chest x-ray revealed a 2cm left sided pneumothorax (see Figure 1).

Investigations

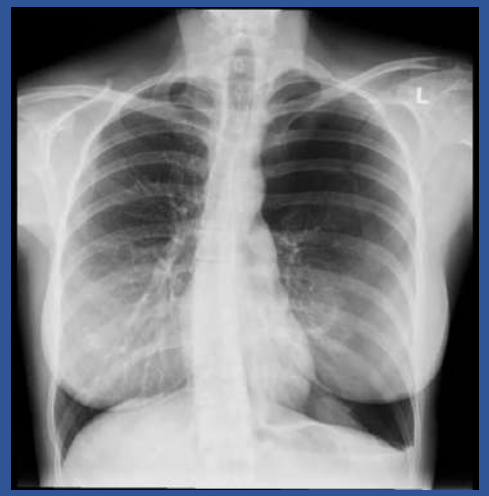

Figure 1 – On Admission

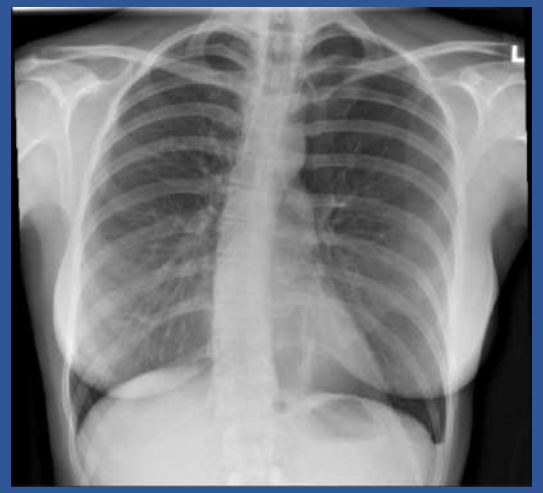

Figure 2 – One Week Later

Results and Treatment

The patient's main priority was to spend as much time as possible with her newborn child. We had a detailed discussion with the patient about the options for managing her primary pneumothorax.

Needle aspiration or an intercostal drain were deemed unacceptable to the patient as she wished to avoid procedures and she would not be allowed to have her child with her in hospital.

A pleural vent was considered, but due to the need to position the vent on the anterior chest wall, it too was deemed unacceptable to the patient due to its likelihood of interfering with breastfeeding.

Through shared decision making we agreed to manage her conservatively and arranged regular follow up. After 1 week, her chest x-ray had improved, and this correlated with an improvement in her exercise tolerance (See Figure 2). She continued to improve over 2 weeks with full resolution at 4 weeks. She appreciated the precious time with her baby that was facilitated through ambulatory management.

Discussion

There is limited evidence around the incidence and management of pneumothorax in pregnancy and post-partum. As this patient had no underlying lung disease, it was treated as a primary pneumothorax.

The 2010 British Thoracic Society (BTS) guidelines would have recommended pleural aspiration. New BTS guidelines published in 2023 highlighted the alternative option of conservative ambulatory management of primary pneumothoracies in low-risk patients by considering patient preference.

The post-partum patient, and the needs of the child, brings a unique complexity to the situation. While pleural vents are an option for ambulatory management, they may not be deemed acceptable by this cohort of patients due to interference with skin to skin contact and breastfeeding.

A conservative management approach with informed patient choice at the heart of the decision-making process can lead to positive outcomes for the post-partum patient and their child.

A case of Hashimoto's Encephalitis

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Presentation

After one year seizure-free on levetiracetam, a 50-year-old woman with a background of focal epilepsy presented with headache, tremor, fatigue and general malaise.

She was discharged, then re-presented to ED several days later in status epilepticus, which required intubation and ventilation, loading with phenytoin, and a midazolam infusion.

She spent 7 days in neuro-intensive care and was eventually discharged home on levetiracetam 1.5 g BD and phenytoin 250 mg BD.

One month later, she re-presented with four days of worsening tremors and reduced mobility. Physical examination revealed multifocal myoclonus. Further enquiry revealed significant cognitive decline and neuropsychiatric symptoms including severe anxiety, delusions and paranoia.

Investigations

TSH: 21.33 mU/L (↑), FT4 7.8 pmol/L, TPO: 188.0 iU/mL (↑)

Other extensive relevant **blood screen**, including the following, was all negative:

NMDA, glycine receptor and anti-cardiolipin antibody	Serum electrophoresis	HIV and syphilis serology
Connective tissue screen, anti-MPO and anti-PR3	Plasma amino acid, urine organic acid and ammonia	JC virus

Paraneoplastic antibody screen including Cerebellum IIF, MA2, MA1, amphiphysin, CV2(CRMP5), Anti-Ri (ANNA 2) Ab, Anti Yo Ab, Anti Hu Ab

LP: CSF WCC 1/cumm, CSF protein 816 mg/L, viral PCR (including JC virus) and OCBs negative
EEG: normal background activity with no clear focal or diagnostic epileptiform abnormalities
MRI head with gadolinium: marked symmetric white matter abnormalities (see figure 1).

Treatment and follow-up

- The clinical picture, elevated TPO antibodies and absence of other relevant investigation abnormality raised Hashimoto's encephalitis as a potential unifying diagnosis.
- She had a good response to inpatient treatment with steroids, her neuropsychiatric features resolved and she has remained seizure-free since discharge.

Discussion and Conclusions

- This case required rigorous ruling-out of other potential causes of the presentation (1)
- High TPO titres alongside with key features of the clinical presentation were key to making the diagnosis (2,3)
- Overall, due to low prevalence and non-specific MRI and EEG features, this diagnosis can be difficult to come to.

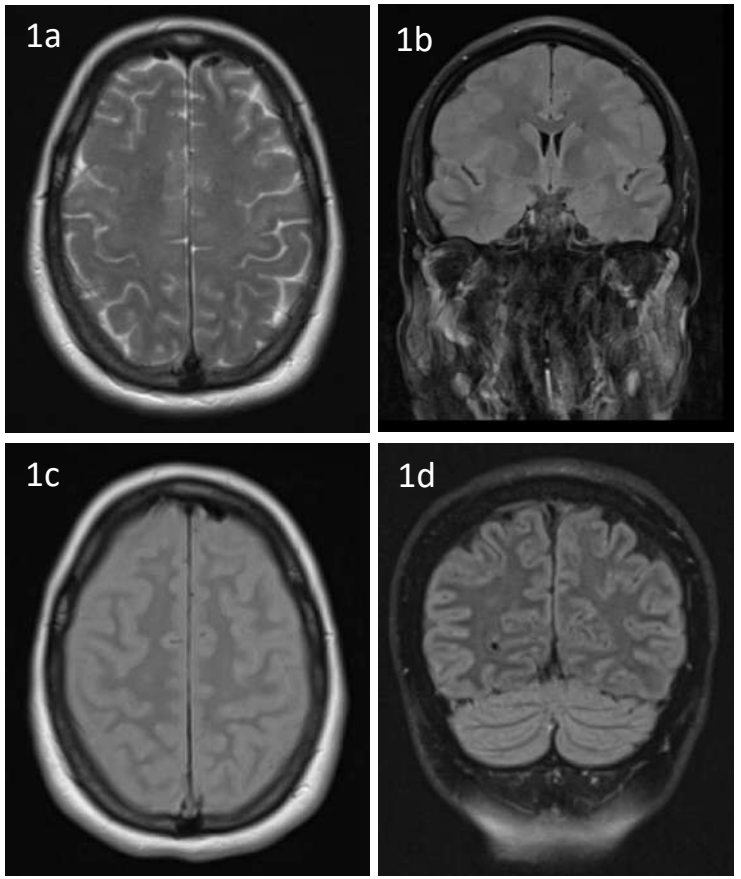

Figure 1: MRI imaging

1a and 1b are taken from the initial MRI imaging. They show marked symmetric abnormality within the white matter of both hemispheres extending into subcortical regions, most predominant at the vertex and involving U fibres (1a) and a marked sulcal signal abnormality on FLAIR (1b).

The neuroradiologist reported that the differential for these appearances was broad, including changes secondary to an encephalitis, meningitis, PML, seizure-related or a leukoencephalopathy (toxic/metabolic/hypoxic/hypoxic-ischaemic). Other, less likely, differentials included autoimmune encephalitis (like GFAP) or a tumour.

Images 1c and 1d are taken from repeat imaging one month later, showing complete resolution of the white matter changes leaving no sequelae.

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Improving Secondary Prevention in Acute Coronary Syndrome through Electronic Prescribing Plans: A Quality Improvement Project

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Background

- **Diabetes** and **hypercholesterolaemia** are key modifiable risk factors for ischaemic heart disease
- The aim of this quality improvement project was to **improve assessment of lipid profile and HbA1c** in patients referred to the acute medical take with acute coronary syndrome (ACS).

Methods

- Two **PDSA** cycles were completed, with prospective data collected from the acute medical take list following the intervention of two sets of changes:

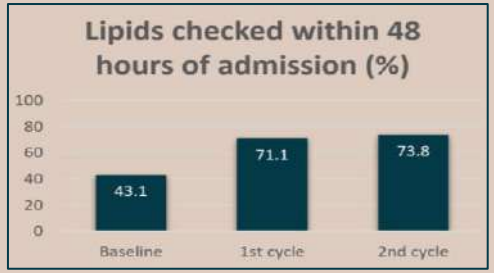
Baseline data → Intervention 1 → 1st PDSA Cycle → Intervention 2 → 2nd PDSA Cycle

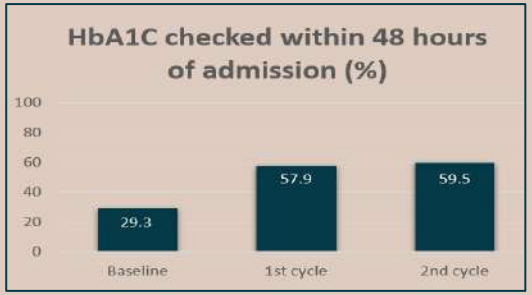
1. Teaching of medical staff
2. Pre-made add-on forms
3. Reminders and posters in clinical areas and offices
4. Reminders on clinical WhatsApp groups.

Integration of automatic request for lipid profile and HbA1c as part of e-prescribing care-set for ACS

Results

- Baseline data was collected in April 2023, in which 58 patients were managed for ACS.
  - Only **25 (43.1%)** had lipid profiles assessed
  - **17 (29.3%)** had HbA1c checked.
- The initial interventions resulted in an improvement of assessment of lipid profile and HbA1c to **71.1%** and **57.9%** respectively
- Improvements sustained after second intervention





Conclusion

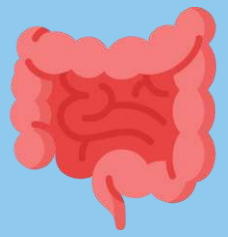
The integration of the described changes within the electronic prescribing system demonstrated a **persistent improvement in assessment of lipid and HbA1c in ACS** patients when compared to baseline.

Discussion

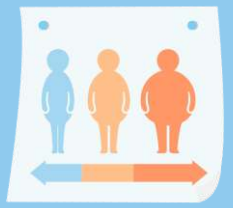
Combining educational and systems-based interventions is a promising method of optimising the secondary prevention of ischaemic heart disease.

Utilising e-prescribing systems within secondary care facilitates sustainable implementation of quality improvement initiatives

References :



Trends and Burden of Colon and Rectum Cancer Attributable to High BMI in the United States From 1990-2019



Luis Sierra Michelle[1], Cortorreal Javier Rafael[1]
[1]Universidad Iberoamericana (UNIBE). Santo Domingo, Dominican Republic.

Introduction

High BMI indicates high body fatness, which can be traduced to **overweight and obesity.** These classifications are known modifiable risk factors for most cancers. Colorectal cancer is the **third most common cancer** diagnosed in men and women. The aim of this study is to assess the outcome of the trends and burden of colon and rectum cancer attributable to high BMI.

Materials & Methods

Data was extracted from the Global Burden of Disease Study 2019 framework. The number of deaths and disability-adjusted life years (DALYs) were analyzed by gender, year and location in the United States from 1990-2019. To analyze the burden trend, annual percentage change (APC) was used.

Results and discussion

- **Both females and males had an upward trend** APC of 46% (95%UI: 31-75), from 5,735 (95%UI: 2,913-8,986) in 1990 to 10,758(95%UI: 6,166-15,579) in 2019.
- **DALYs:** Males display the highest upward trend with an APC of 44% (95%UI: 28-78), from 95,671(95%UI: 48,353-149,752) in 1990 to 190,232(95%UI: 110,616-270,621) in 2019.
- **West Virginia:** Highest DALYs rate per 100,000 habitants and the highest number of deaths per 100,000 habitants, 115(95%UI: 66-173) and 5 (95%UI:2-7) in 2019, respectively.
- **Age group with the highest burden:** 70-74 years
- **Age group with the highest DALYs:** 65-69 years

Conclusions

Data and information analyzed regarding colon and rectum cancer attributable to high body mass index (BMI) has shown throughout the years an **important rise in the number of deaths with a higher burden in males rather than females.**

Finding such a large increase in these trends and burden, demonstrates the importance of acting upon the **modifiable risk factors** within these patients.

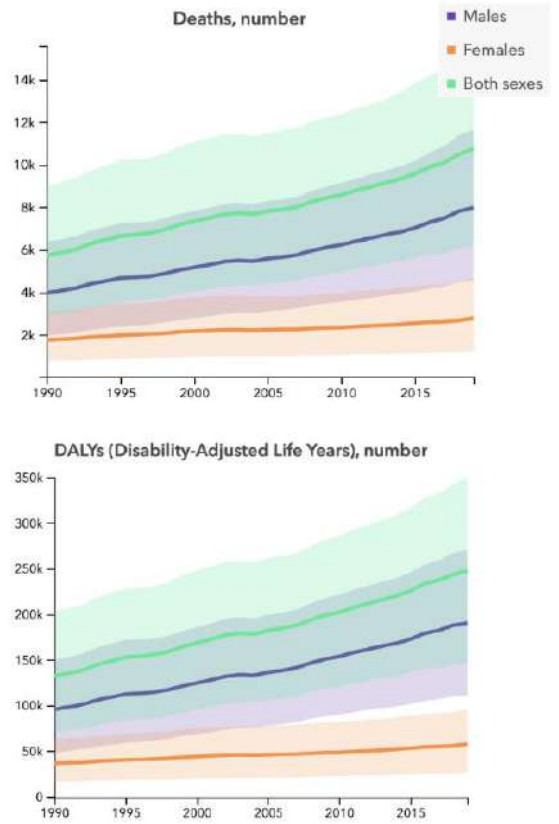


Figure. Trends of Colon and Rectum Cancer Attributable to High BMI in the United States From 1990-2019, all age counts.

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IT'S MILD, YET WILD; A CASE OF COVID-19 RELATED CARDIOMYOPATHY

Mina Khalid - Sheffield Teaching Hospitals NHS Foundation Trust

INTRODUCTION

- COVID-19 related cardiomyopathy (CM) secondary to stress, myocarditis, myocardial infarction and malignant arrhythmias has been reported in acute settings with severe infection.
- Long term cardiovascular implications with mild to moderate COVID-19 infection are unknown.
- We present such a case of potential COVID-19 related cardiomyopathy, months after an initial episode of uncomplicated infection.

CASE PRESENTATION

- A 29-year-old man with recently diagnosed Type 1 DM and mild COVID-19 infection 2 months prior to admission, presented with dyspnoea on exertion for 2 weeks.
- Physical examination was consistent with volume overload state without hemodynamic instability.
- Chest Xray showed bilateral perihilar congestion with bilateral effusions.
- ECG revealed sinus tachycardia without any acute ischemic changes.
- Initial labs showed elevated, but non-trending cardiac troponin I (17-18 ng/L).
- Viral serology and autoimmune profile were unremarkable and Pro-BNP was elevated (1432 pg/ml).

DIAGNOSTICS

- Transthoracic echocardiogram (TTE) was remarkable for severe LV systolic dysfunction (EF < 10 %, EDD - 5. 9 cm, moderate MR) and moderately reduced RV systolic function.
- Stress cardiac MRI, for etiological work up, confirmed severely dilated left ventricle (EDD - 6.4cm) with severe impairment (EF- 15%). Right ventricle appeared better than LV but severely impaired (EF - 22%) with mild dilatation (EDD - 4.9cm). There was no evidence of late gadolinium enhancement or reversible ischemia.

MANAGEMENT

- In view of clinical presentation and imaging findings, excluding myocarditis, a diagnosis of stress induced dilated cardiomyopathy secondary to COVID-19 infection was made.
- He was started on guideline directed medical therapy (GDMT).
- He was re-admitted in 3 weeks with acute dyspnoea when CT pulmonary angiogram revealed acute pulmonary embolism with apical RV thrombus without DVT. He was started on anticoagulation and discharged home with outpatient follow up.

  Repeat TTE after 4 months showed biventricular dilated cardiomyopathy (LVEF ~ 15%, EDD of 6.1 cm). Patient refused primary prevention ICD. He continues to be on GDMT and anticoagulation with stable NYHA II symptoms

DISCUSSION

- Cardiovascular complications are a common manifestation of acute COVID-19 infection.
- Although these complications associated with COVID-19 infection have been mostly seen in hospitalised patients with severe infections but patients with otherwise uncomplicated COVID-19 infection also display an increased risk of developing these complications months later.
- Careful attention for any delayed complications should be given to those patients who had otherwise uneventful COVID-19 infection.

CONCLUSION

- This case highlights the potential delayed cardiovascular implications of a relatively uncomplicated COVID-19 infection.
- Large scale studies are needed to identify high risk individuals and pathophysiological mechanisms underlying these late complications.

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Not your typical Endocarditis! A case report.

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History

- 25-year-old male, background of eczema and cavitating pneumonia during childhood.
- 10-day complaint of fever, myalgia, and a body rash.
- Blood cultures grew Staphylococcus Aureus.
- Patient with native valves and no risk factors for endocarditis (including intravenous drugs use, recent interventions or dental procedures)

Examination/ Investigations

i. Mild hepatosplenomegaly
ii. No murmurs on auscultation.
iii. CT showed septic emboli in his lungs.
iv. Echocardiogram showed a (3.2cm x 1.5cm) vegetation of the sub-valvular apparatus of the mitral valve, attached to the posteromedial papillary muscle and chordae.

Silver Bullet

Historical notes suggests that the patient had a diagnosis of Hyper-IgE Syndrome as a child and was lost to follow-up.

Management

Endocarditis MDT consensus was to treat medically with a long course of parenteral antibiotics, which resulted in a reduction of the size of the vegetation on subsequent serial echocardiography.

KEY LEARNING POINT

- Always consider immunodeficiency syndromes in atypical presentations of infective endocarditis.

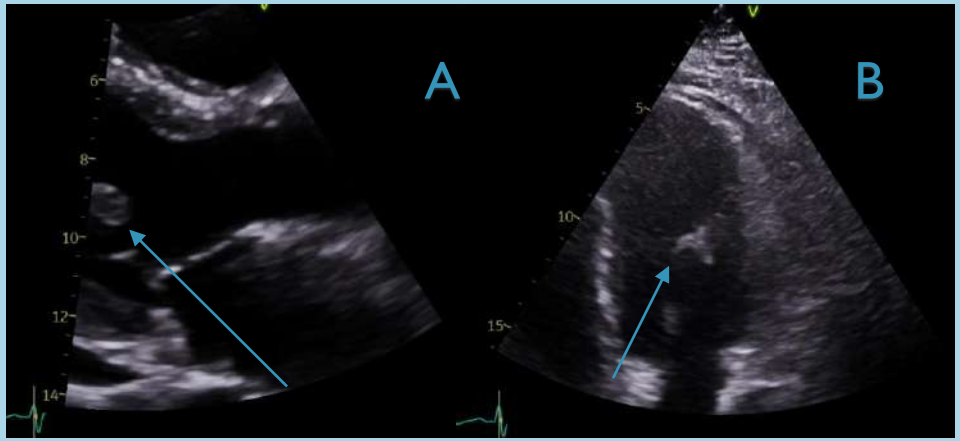

Fig 1 (A) PLAX - large sub-valvular vegetation (Arrow)
(B) Same vegetation on zoomed A4C

The Outcomes Of Occlusive Vs Non-Occlusive Culprit Coronary Artery In Non-ST-Segment Elevation Acute Coronary Syndrome (NSTEACS): A Descriptive Prospective Study In A Tertiary Cardiac Centre In Sudan

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Introduction

Non-ST-segment elevation acute coronary syndrome (NSTEACS) is a common presentation of acute coronary syndrome.
Revascularization as treatment for Acute Coronary syndrome in the republic of Sudan is free to all comers whether STEMI of NSTEMI [1].

We aimed to investigate the frequency and outcomes of NSTEMI (No ST segment elevation) Sudanese patients proven to have an occluded culprit coronary artery (TIMI flow 0).

Materials and methods

A prospective single-center study, 100 NSTEACS conductive patients who were admitted to Al-Shaab Teaching Hospital Khartoum- Sudan from January to April 2022 were examined.

Data regarding demographics, medical history, clinical presentations, laboratory investigation, electrocardiography (ECG) findings, echocardiogram, coronary angiography (CAG), management strategies, medications at discharge and follow up, 30-day outcomes, and 6-month mortality rates were collected. All patients underwent standard medical management and CAG within 24-48 hours of admission.

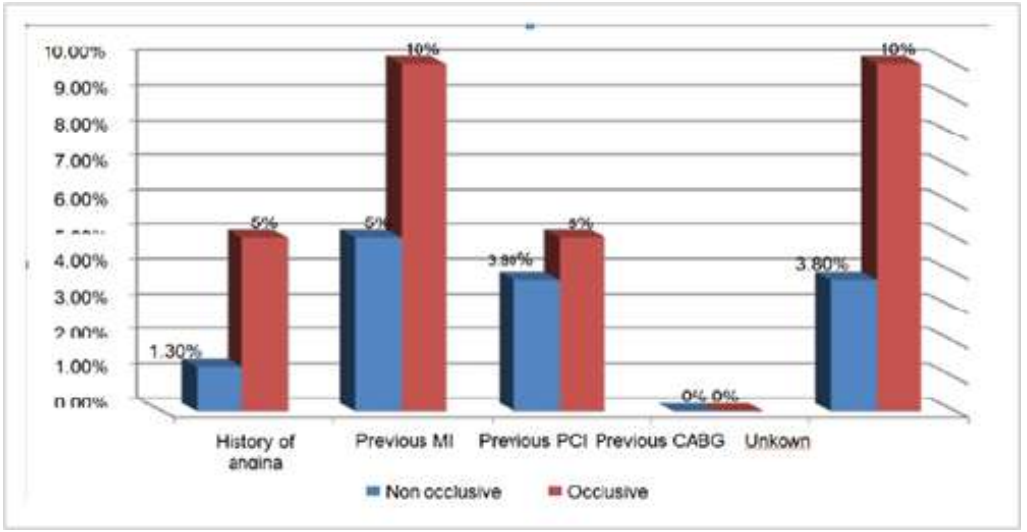

Figure 1: Distribution of IHD history according to the type of occlusion in patients with NSTEACS

Results

In total, 100 consecutive patients with NSTEACS were enrolled in this study, with 20% (n = 20) having occluded culprit artery (OCA) and 80% (n = 80)have no occluded culprit artery (non-OCA). Patients with OCA were younger (mean age 57.6 ± 10.7 years vs. 64.3 ± 11.1 years, p = 0.002) and predominantly male (70% vs. 48.8%, p = 0.06) as compared to those with non-OCA. Patients with OCA had a higher percentage of major cardiovascular risk factors (diabetes, hyperlipidemia, and smoking) than patients with non-OCA, except for hypertension, which was higher among patients with non-OCA (70% vs. 45%, p = 0.045).

At admission, patients with OCA had a higher percentage of heart failure (20% vs. 7.5%, p = 0.05) and a lower ejection fraction (mean EF% 49.5 ± 13.7 vs. 54.3 ± 9.5, p = 0.04) as compared to patients with non-OCA. T-wave inversion was the most common ECG finding in both groups. With regard to the culprit coronary artery, the right coronary artery (RCA) was the most frequently involved in NSTEACS patients with OCA (60%), followed by the left circumflex artery (LCX) (20%), left anterior descending artery (LAD) (15%), and obtuse marginal artery (5%)[Figure1].

Conclusion

We can conclude that NSTEMI, in a considerable number of patients is the result of total occlusion of the culprit artery without showing ST elevation in the presenting ECG. These patients have a higher prevalence of major cardiovascular risk factors, worse clinical presentations, and worse outcomes than those with non-OCA. The RCA was the most frequently involved.

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A Case Of Skin Rash Associated With Spontaneous Pneumomediastinum

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James Paget University Hospital, Great Yarmouth

Introduction

Anti-melanoma differentiation-associated gene 5 antibody (Anti-MDA5) positive myositis is a distinctive subtype of dermatomyositis (DM) characterized by minimal or no muscle involvement, aggressive skin features, and, rarely, rapidly progressive interstitial lung disease (RP-ILD).

Pneumomediastinum is a rare complication of this subtype, contributing to high mortality often attributed to delayed diagnosis due to its atypical presentation.

Case Presentation

An 81-year-old lady presented to the district hospital with a generalized decline, weight loss over the last month and a recent history of nausea and diarrhoea. She exhibited an erythematous rash mainly on the dorsum of her hands, with a few spots on her elbows and left leg.

Approximately one year prior, she had been diagnosed with left breast cancer, undergone for

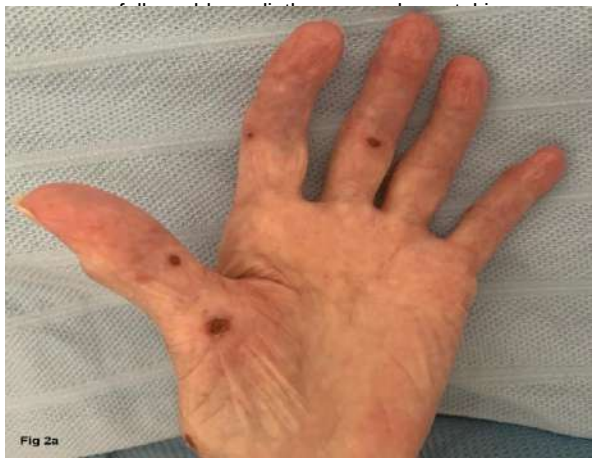


Fig 2a

Investigations revealed leukopenia, thrombocytopenia and normal CRP. Anti-Ds DNA, anti-Ro, and anti-cardiolipin antibodies were positive. LFTs, kidney function, ANCA and complement levels were normal. Myositis-specific antibodies were requested in view of rash. The muscle power was normal in both proximal and distal muscle group. Body CT did not reveal any malignancy, but showed small pulmonary ground glass opacities and bands favouring ILD (Fig 1a). She was treated with oral prednisolone and hydroxychloroquine, with a provisional diagnosis of undifferentiated connective tissue disease. She was discharged to follow up in the rheumatology outpatient setting.

Within a month, she re-presented with fatigue, odynophagia and ulcers over the rashes (Fig 2a&b). Meanwhile, her myositis antibody panel results returned positive for anti-MDA5 antibodies. A repeat CT scan revealed rapid increase in bilateral lung ground glass opacities with new spontaneous pneumomediastinum (Fig 1b).

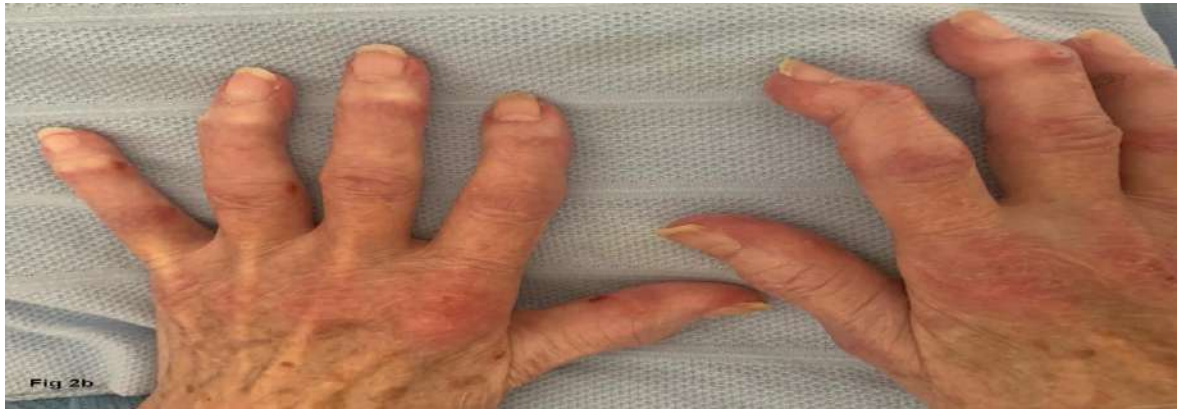


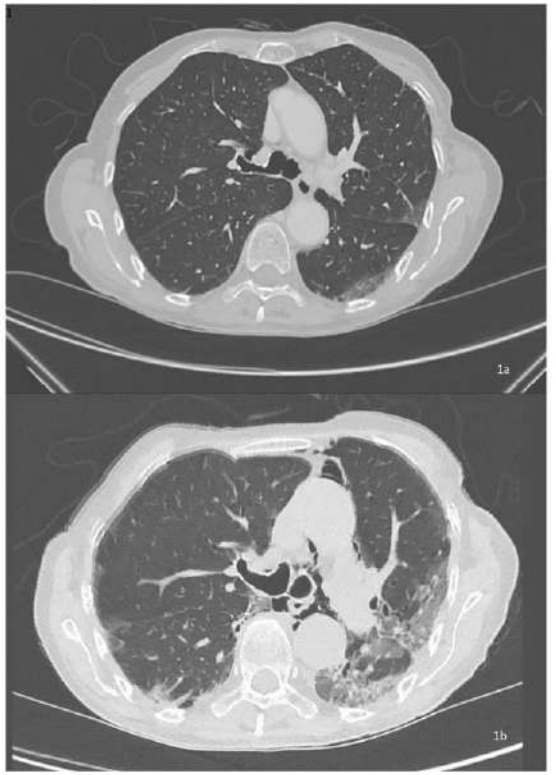
Fig 2b

She was initiated on oxygen and high-dose intravenous/oral prednisolone, along with fortnightly cyclophosphamide infusions. She responded well with resolution of the skin rash. However, after 10 days of initial cyclophosphamide, her condition deteriorated due to worsening hypoxia secondary to a concurrent COVID-19 infection. Unfortunately, she passed away despite appropriate COVID-19 treatment.

Discussion

Our patient presented with clinically amyopathic dermatomyositis (CADM) due to the normal creatine kinase levels during both admissions. She had progressive acute ILD within a six-week interval, indicative of RP-ILD. The overall clinical picture aligns with anti-MDA5 antibody positive DM.

Pneumomediastinum is a rare life-threatening complication of anti-MDA5 DM associated with a poor prognosis and high mortality. The exact mechanism of this complication is still unknown, although it is often linked to RP-ILD. Treatment is respiratory support and aggressive immunosuppressive therapy; however, outcome can be variable. Clinicians need to remain vigilant for this potentially fatal complication



Contact

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A LATE DIAGNOSIS OF INFECTIVE ENDOCARDITIS (IE) IN THE COVID 19 INFECTION: A NEAR FATAL EXPERIENCE

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SUMMARY

Infective endocarditis (IE) is a notable cause of valvular dysfunction and heart failure among patients who have risk factors in the UK. It typically presents with fever associated with symptoms and signs of cardiac disease, in addition to its extracardiac manifestation which may indicate its severity.[1]

Co-infection of COVID-19 with IE could result in a diagnostic challenge.

BACKGROUND

This case is presented to highlight the importance of a complete diagnostic work up of patients with fever in the presence of covid 19 infection especially when there are associated systemic manifestations not attributable to covid 19 alone.

In Covid 19 pandemic, it has become common for diagnosis of IE to be missed as patients will likely present with fever and nonspecific symptoms.[2] Detailed clinical evaluation is therefore important in clinching its diagnosis.

CASE PRESENTATION

Our patient is A 75year old man with a background of chronic obstructive pulmonary disease (COPD) as well as significant smoking history.

Presented with a history of poor oral intake, weight loss, and recent diagnosis of Covid 19 with ongoing fever on admission. Patient has been covid 19 positive for about 3weeks prior to hospitalization. Symptoms were attributed to Covid 19 infection and had multiple antibiotics treatments at home for COPD exacerbation.

Initial examination revealed clinical evidence of pulmonary hypertension and tricuspid regurgitation (TV) which was believed to be related to COPD.

He was started on antibiotics and oxygen, treated as infective COPD exacerbation.

On transfer to Cardiology ward five days later, A finding of splenic infarction and pulmonary embolus on radiologic images performed 3weeks prior to admission revealed a missed diagnosis of extracardiac manifestation of IE using the modified dukes' criteria.[3]

High suspicions as well as persistence of symptoms prompted further investigation including three sets of blood culture (BC) and transthoracic echocardiography (TTE). Enterococcus faecalis was isolated from BC (7days from admission). Echocardiography revealed large vegetations in the tricuspid valves (TV) with severe tricuspid regurgitation (TR) as well as a vegetation in the right coronary cusp of the aortic valve.

INVESTIGATIONS

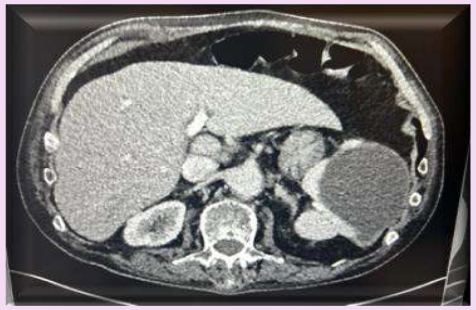

Figure 1: CT scan showing splenic infarction.

Figure 2; TTE showing vegetations on the TV leaflets.

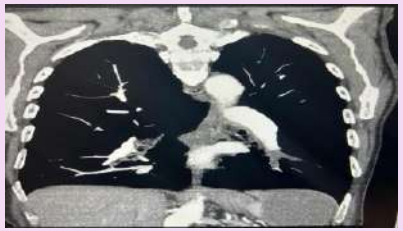

Figure 3: CT scan showing pulmonary embolism

DIFFERENTIAL DIAGNOSIS

Final diagnosis was a case of IE with several extracardiac complications.[3,4] Colonic malignancy was a differential in this case. Enterococcus faecalis has been reported as the third commonest cause of IE and has been described in patients with colonic tumours.

TREATMENT PLAN

Intravenous amoxicillin and gentamicin were prescribed, based on microbiologic sensitivity and according to local trust guidelines. Symptoms however persisted despite treatment, including a new onset heart failure which necessitated patient's referral for surgery.

OUTCOME AND FOLLOW UP

Patient declined surgery at that point as he had deteriorated further and became clinically unfit for surgery. He requested for palliative treatment and was discharged home subsequently as end-of-life care.

LEARNING POINTS/TAKE HOME MESSAGES

- A thorough evaluation of all patients presenting with fever despite covid positivity is therefore important for prompt diagnosis and treatment of IE.
- A knowledge of extracardiac manifestation of IE, its aetiologic associations are relevant in prompt recognition.
- Delayed recognition of its complication leads to poor treatment outcome.

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Persistent Sweet Taste Dysgeusia diagnosed with probable SIADH: Unmasking Underlying Lung Cancer in a High-Risk Individual: A Case report

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Royal College of Physicians

NHS The Shrewsbury and Telford Hospital NHS Trust

Introduction

The timely identification of lung cancer is critical but difficult due to its broad and often nonspecific symptoms.
This case report highlights the importance of taking into consideration unusual manifestations, especially in persons at high risk, and emphasises the necessity of a thorough diagnostic approach.

Case Report

- 66 YO/F referred from GP to SDEC
- Presented with persistent sweet taste dysgeusia, headache and hyponatremia (118)
- 40 pack year of smoking,
- Unremarkable CXR **(image1)**
- PMH: On gabapentin 1800mg/day, for the past 25 years for neuropathic pain
- Differential diagnosis was SIADH however, CT thorax **(image 2)** showed primary lung malignancy with PE and liver metastases

Clinical Images

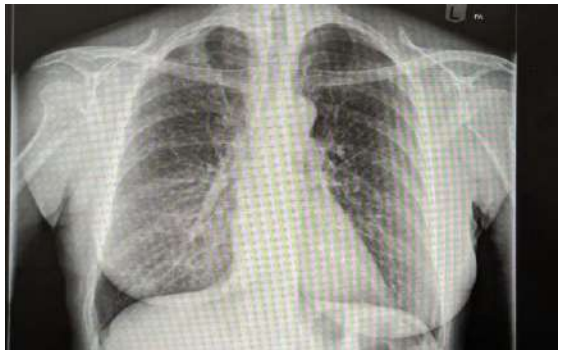

Image 1: Normal CXR

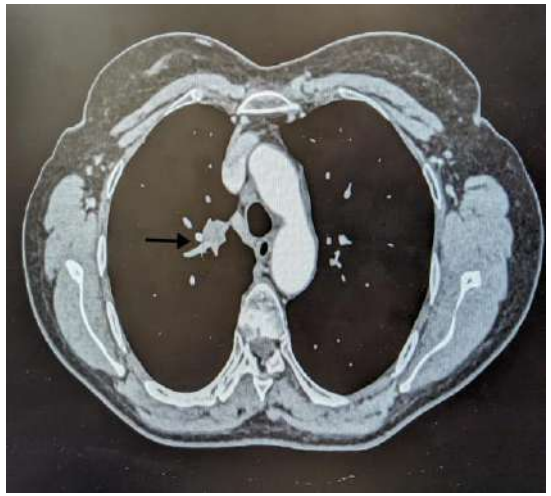

Image 2: CT scan showing primary lung malignancy invading the right apical segment of the pulmonary artery and thrombus extending into subsegmental branches and liver metastases

Results

Endobronchial ultrasound (EBUS) and biopsy definitively diagnosed small cell lung carcinoma (SCLC).
Immunohistochemical analysis revealed positivity for CK7, CD56, synaptophysin, and TTF-1.

Diagnosis

T1c N2 M1c metastatic Small Cell Lung Carcinoma with liver metastases.
Pulmonary Embolism.

Initial Management

•The patient was discharged with demeclocycline, but due to vomiting, it was changed to tolvaptan 30mg once daily.
•Other medications include gabapentin 300mg twice daily, atorvastatin 40mg once daily, clopidogrel 75mg daily, and lansoprazole 30mg once daily.

Treatment

Carboplatin and Etoposide chemotherapy with Atezolizumab for 4 cycles followed by maintenance Atezolizumab.
Tinzaparin 10,000 units for PE (OD).

Discussion

- This case underscores the critical need for heightened suspicion for malignancy, especially in high-risk individuals like smokers, even when presenting with seemingly common diagnoses like SIADH.
- Highlights the limitations of solely relying on initial symptoms and investigations. Notably, the patient had an unremarkable chest X-ray **(image 1)** despite a significant 40-pack-year smoking history, emphasizing the importance of employing a comprehensive diagnostic approach.

Conclusion

This case contributes to the growing evidence suggesting sweet taste dysgeusia could be an atypical early warning sign of lung cancer, particularly in high-risk individuals.

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Melanosis Coli And Colorectal Cancer: Coincidence Or Correlated?

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Introduction

Melanosis coli (MC) is the benign hyperpigmentation of the colorectal mucosa.[1] Known risk factors for MC include the use of anthraquinone laxatives, and chronic constipation.[1] Prior studies have suggested a link between MC and colorectal cancer (CRC), though this remains unresolved.[2] Here, we describe a case of MC coinciding with CRC in a patient lacking obvious risk factors for MC.

Methods

- A 71-year-old gentleman with underlying chronic lymphoid leukaemia presents with intermittent generalised abdominal pain, bloating, vomiting, tenesmus and altered bowel habit.
- He denies previous or current use of anthraquinone laxatives and traditional medicines.
- His colonoscopy revealed extensive MC along nearly the full colonic length, in addition to a circumferential tumour at the hepatic flexure, alongside multiple small polyps.
- Histopathological investigations identified the tumour as an adenocarcinoma.
- He underwent a right hemicolectomy.

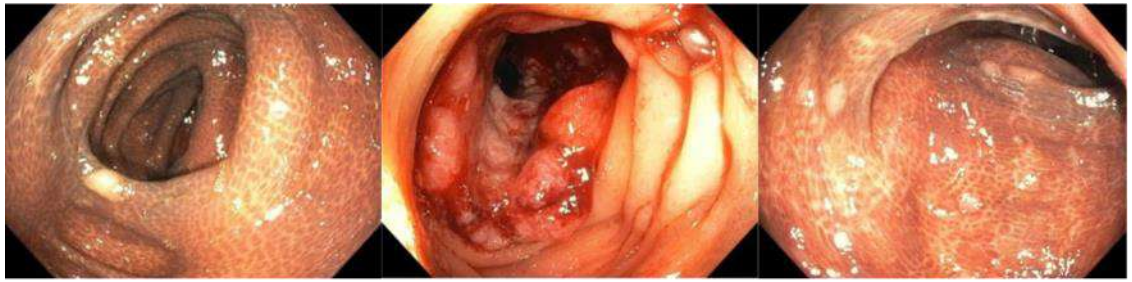

Image 1:Diffuse blackish pigmentation involving the colon. (left) An irregular circumferential mass is seen at the hepatic flexure. (middle) Multiple hyperplastic polyps are visualized in the background of melanosis coli. (right)

Results

- Proteins identified in CRC are similarly up-regulated in MC.[2]
- The aberrant Hedgehog signalling pathway activation seen in CRC is also detected in MC, albeit at a different cellular level.[3]
- MC is associated with higher detection rates of colonic polyps during colonoscopy, due to ‘enhance effect’, where the visibility of non-pigmented polyps is increased against the pigmented colonic mucosa in MC.[2]
- Our case report demonstrates that MC may arise in the absence of known risk factors.
- While some studies have demonstrated a possible link between MC and colorectal malignancy, a true pathophysiological link has yet to be established.

Conclusion

- More studies are warranted to demonstrate a possible pathophysiological relationship between MC and CRC.
- The enhanced detection of colonic polyps in coincidental MC may have implications for enabling earlier interventions in colonic malignancies, and its presence on colonoscopy should prompt increased vigilance by clinicians.

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Reversible Pregnancy Related Pure Red Cell Aplasia coexisting with Alpha Thalassemia

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INTRODUCTION

Pure red cell aplasia is a syndrome characterized by normocytic normochromic anemia with severe suppression of erythrocyte precursor cells which can be both congenital and acquired. Acquired pure red cell aplasia can be either primary; due to a clonal or autoimmune disorder; or secondary. While infections like parvovirus B19, drugs, hematological and non-hematological malignancies, connective tissue disease and thymomas have all been reported to cause secondary pure red cell aplasia, pregnancy induced pure red cell aplasia is a rare association with very few cases reported in literature so far.

CASE DESCRIPTION

A 26-year-old primigravida presented at 25 weeks of gestation to our center with history of easy fatiguability since the third month of her pregnancy. She had been diagnosed to have anemia at her local center where she had been treated with parenteral iron,B12 and had also received four packed red blood cell transfusions in total (1000 ml); two units when she was diagnosed to have anemia, and two units one [illegible] evaluation and management.

RELEVANT MEDICAL HISTORY
No comorbidities/significant past surgical or medical history
No history of bleeding
No history of jaundice
No history of fever/rash/arthralgia/upper respiratory tract infection in the current pregnancy
No history of long-standing constitutional symptoms such as fever, night sweats or weight loss preceding the current illness
No history suggestive of autoimmune disease
No history of drugs/toxins/alternative therapy

On examination she was noted to have severe pallor, however other physical examination was normal with no evidence of nutritional deficiency, lymphadenopathy, icterus, hepatosplenomegaly or sternal tenderness.

INVESTIGATIONS

PRELIMINARY INVESTIGATIONS	RESULTS
Haemoglobin	54 g/L
MCV	82.6 fL
Total leucocyte count	8 x 10^9/L
Platelet count	434 x 10^9/L
Reticulocyte Index	0.3
Split bilirubin	Total bilirubin-2.74 micromol/L; Unconjugated- 0.68 micromol/L
Serum folate	18.7 ng/mL
Serum B12 levels	>2000 pg/mL
Serum Iron	176 microgm/dL
Total iron binding capacity (TIBC)	337 microgm/dL
Serum Ferritin	723.5 ng/mL
Serum LDH	102 IU/L
TSH	0.753 mu/L

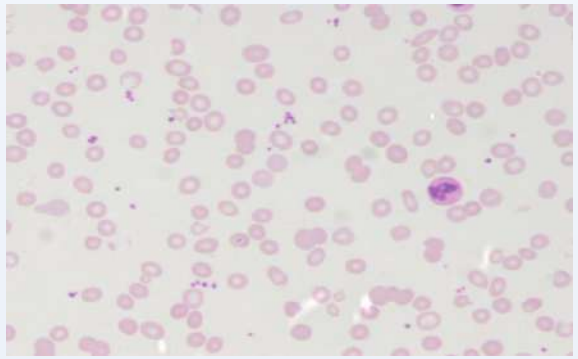

Figure 1: Blood film 400x: Normocytic normochromic cells with microcytosis, poikilocytosis, anisocytosis, polychromasia and elliptocytes.

- ANA Global- Weak positive; ANA Profile, Anti dsDNA-Negative
- HIV/ Hepatitis B/ Hepatitis C-Negative
- Paroxysmal Nocturnal Haemoglobinuria Panel-Negative
- Renal function-Normal

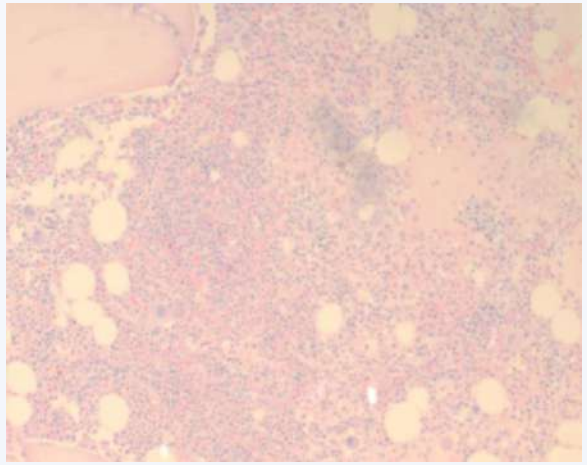

Figure 2: Bone marrow Biopsy 100X- Erythroid suppression with mildly increased myelopoiesis and increased megakaryopoiesis with few immature cells suggestive of pure red cell aplasia.

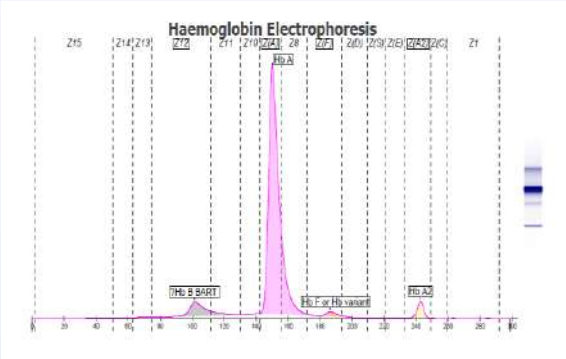

Figure 3: Haemoglobin electrophoresis- Hb Bart spike of 8.1 and HbA2 of 3.5- Suggestive of alpha thalassemia.

PARVOVIRUS B19 PCR WAS NEGATIVE

TREATMENT ADMINISTERED AND OUTCOME

The patient was treated with packed red blood cell transfusions till delivery, targeting a hemoglobin of 80 g/L. She received three packed red blood cell transfusions (750 ml), following which she was discharged and advised to follow up every two weeks at her local center with haemoglobin levels. She underwent elective caesarean section at 38 weeks and delivered a healthy newborn with no anemia and no congenital abnormalities. Haemoglobin normalized within 4 weeks, and she became transfusion independent. Five years post pregnancy, both the patient and the child are asymptomatic with the patient's haemoglobin stable at 90-100 g/L. She has been advised on genetic studies and partner screening prior to planning her next pregnancy.

DISCUSSION

Pregnancy related pure red cell aplasia can be defined as:

1. Normocytic, normochromic anemia with bone marrow evidence of erythroid suppression along with normal production and maturation of all other cell lines along with onset only during pregnancy or in the postpartum period and resolution following the same.
2. Absent clinical or laboratory evidence of nutritional deficiency, renal failure, connective tissue disease, malignancy, thymoma, viral hepatitis or active infection.

We found sixteen cases of pregnancy related pure red cell aplasia that have been reported so far in literature. A review of these reports revealed significant heterogeneity amongst the patient population in terms of age and parity. The majority of patients delivered a healthy newborn. We also noted that there was no significant difference in outcomes; whether they were treated with transfusions alone or transfusions with corticosteroids/immunoglobulins. The pathogenesis of pregnancy related pure red cell aplasia has not been well-characterized but is thought to be secondary to an autoimmune cause, although few reports have hypothesized that progesterone may be playing a role in erythroid suppression. This patient was managed with transfusions alone, but we targeted a lower haemoglobin level due to her incidental diagnosis of alpha thalassemia.

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Cerebral Venous Sinus Thrombosis: A Diagnostic Dilemma in an Uncommon Presentation

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INTRODUCTION AND OBJECTIVES

Bacterial meningitis is a potentially fatal illness, characterized by high morbidity and mortality rates[1], with Pneumococcal meningitis being a prominent cause.

Although pneumococcal meningitis can result in a range of neurological issues, cerebral venous sinus thrombosis (CVST) is relatively rare. CVST is an uncommon complication, occurring in around 10% of cases.[3] Due to its variable presentation, CVST can be challenging to recognize early. A nationwide prospective cohort study conducted in the Netherlands over 12 years reported the incidence of CVST at 1%.[2]

This case study highlights the initial misleading presentation of pneumococcal meningitis that resulted in a complex diagnostic workup before the final diagnosis was achieved. This purpose of this study is to emphasize the diagnostic challenges and the importance of early recognition which could facilitate more timely treatment and improved outcomes management.

CASE REPORT

A 52-year-old previously healthy female presented to the emergency department with a sudden loss of consciousness. Three days prior, she had developed a severe headache, ear pain, and episodes of confusion and disorientation.

Her family reported that her mental status had been declining over those three days until she became unresponsive at home.

On initial evaluation, she was comatose with a Glasgow Coma Scale of 9 (E2V3M4).

Her vital signs showed a fever of 39.6°C, blood pressure 145/92 mmHg, heart rate 105 bpm, and respiratory rate 22 breaths/minute.

INVESTIGATION

Physical Examination

The physical exam was notable for nuchal rigidity and positive Kernig's and Brudzinski's signs. However, there were no obvious focal neurological deficits.

Investigations

Initial **blood work** including complete blood count, metabolic panel, liver function tests, and coagulation studies were within normal limits.

A lumbar puncture, cerebrospinal fluid (CSF) analysis showed a white blood cell count of 320 cells/μL (90% neutrophils), protein 1.9 g/L, glucose 0.8 mmol/L, and 640 red blood cells. Gram stain revealed gram-positive cocci in pairs, confirming pneumococcal meningitis.

Imaging

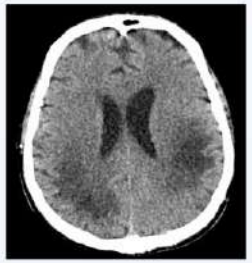

Fig 1: A non-contrast computed tomography (CT) scan of the head was obtained which revealed multiple ill-defined hypodense areas in the cerebral hemispheres concerning for toxoplasmosis, encephalitis, or infarction.

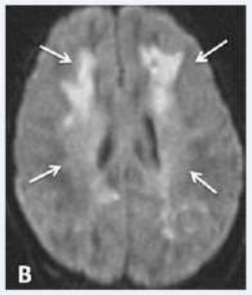

Fig 2: To assess for potential complications, magnetic resonance imaging (MRI) of the brain was obtained. This demonstrated acute infarcts in the bilateral cerebral hemispheres on diffusion-weighted imaging.

INVESTIGATION

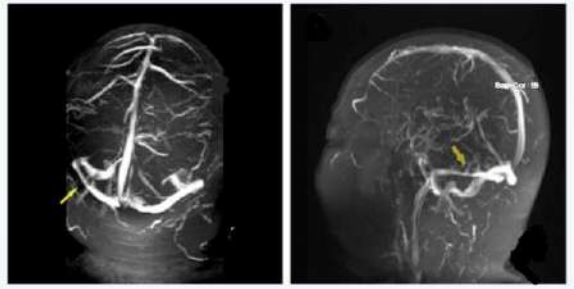

Fig 3: Magnetic resonance venography imaging showed multiple filling defects in the right transverse sinus and sigmoid sinus (*arrow*), and the luminal visualization was slender than that on the left (*arrow*), suggesting multiple thrombosis in the right transverse sinus and sigmoid sinus

Echocardiogram

An echocardiogram showed a 1.2 cm vegetation on the mitral valve with mild mitral regurgitation, leading to a diagnosis of subacute bacterial endocarditis as the likely source of her meningitis and CVST.

RESULT AND DISCUSSION

The MDT outlined an aggressive treatment plan spanning four weeks for the infective endocarditis, with an additional two weeks dedicated to addressing the intracranial infection and complications.

The initial therapy: IV vancomycin and gentamicin, selected to provide broad coverage for the gram-positive endocarditis vegetation identified on echocardiogram.

To treat the pneumococcal meningitis and intracranial complications: IV chloramphenicol - excellent blood-brain barrier penetration.

Additionally, treatment-dose enoxaparin was initiated for anticoagulation to address the cerebral venous sinus thrombosis (CVST).

RESULT AND DISCUSSION

Over the six-week treatment course, the patient's mental status returned to baseline with minimal residual deficits, and repeat imaging showed resolving cerebral venous sinus thrombosis (CVST). After completing antibiotics, she was transitioned to oral anticoagulation for three months and underwent outpatient rehabilitation for her residual weakness.

CONCLUSIONS

Cerebral venous sinus thrombosis represents a rare yet potentially life-threatening complication of bacterial meningitis.

Recognizing its diverse clinical presentations, including deceptive manifestations, is crucial for timely intervention.

Clinicians must maintain a high index of suspicion for CVST in patients with meningitis, especially when clinical features deviate from typical presentations.

Early diagnosis and effective therapeutic interventions are imperative for optimizing patient outcomes and minimizing long-term neurological sequelae.

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Real World Evaluation of Pathological Complete Response Rates Following the Use of Pembrolizumab Alongside Neo-Adjuvant Chemotherapy in Early Triple Negative Breast Cancer

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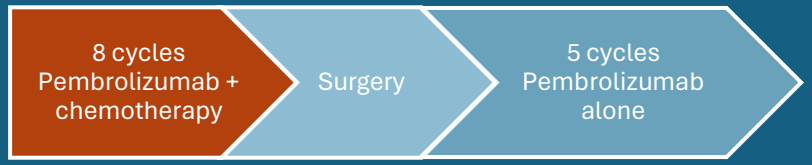
1. Introduction

Triple-negative breast cancer (TNBC)is the **most aggressive histological subtype** of adenocarcinoma which lacks progesterone, oestrogen and HER2 receptors, and is associated with a **poor prognosis**.

KEYNOTE-522 trial showed a significantly higher rate of **pathological complete response** (pCR) in TNBC patients who were treated with **Pembrolizumab, a PD1 monoclonal antibody**, compared with placebo (64.8% vs 51.2%)[1]. Subsequently, in 2022 NICE recommended the use of Pembrolizumab alongside current treatment regimens[2]. To date, the use of Pembrolizumab for TNBC has not been evaluated in the clinical setting.



2. Aims

We aim to assess the **outcomes** of **Pembrolizumab-Chemotherapy treatment** in TNBC patients at **Worcestershire Acute Hospitals Trust** and compared with outcomes of the **KEYNOTE-522 trial**

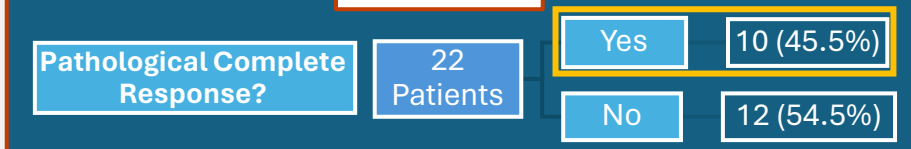
3. Methods

Inclusion: all patients with early triple negative breast cancer, with tumour size >2cm

Data was extracted from the **MOSAIQ chemotherapy software** for the Trust. **Microsoft Excel** was used for statistical analysis.

23 patients were identified, with 1 not having received Pembrolizumab, leaving **22 patients included** in analysis.

4. Results



- pCR post-surgery was achieved in **45.5%** of patients
- Rate of pCR was **higher in post-menopausal patients**: 60.0% vs 33.3%
- Overall rate of pCR was **lower** in our population than in the **KEYNOTE-522 trial: 45.5% vs 64.8%**
- **pCR** was **not achieved** in any **patients with nodal positive status**
- Similar rates of pCR were observed across both T stages (45.0% vs 50.0%)
- Baseline characteristics were similar to KEYNOTE-522 including menopausal status, but a greater proportion of patients were under 65 years and fewer were nodal positive in this evaluation

Factor	Subgroup	Count (n)	Pathological Complete Response no. (%)
Age	<65	18	7 (38.9)
	>65	4	3 (75.0)
Menopausal Status	Pre	12	4 (33.3)
	Post	10	6 (60.0)
T Stage	T2	20	9 (45.0)
	T3	2	1 (50.0)
N Stage	N0	18	10 (55.6)
	N1	3	0 (0.00)
	N3	1	0 (0.00)
Type of Surgery	Mastectomy	6	2 (33.3)
	Wide Local Excision	16	8 (50.0)

Table 1. Subgroup analysis of results

5. Discussion

- **Rates of pCR** in this evaluation appear much **lower** than the **rates observed** in the **KEYNOTE-522 trial**
- Reasons for a much lower success rate could include:
  - **Sub-optimal implementation** of a new treatment
  - **Selection biases** by clinicians, and **exclusion criteria** within the research setting, creating population differences, regarding patient motivation and health literacy
  - Differences in **chemotherapy regimes**

Limitations:

- The **size** of this evaluation limits its reliability, particularly with subgroup analysis
- pCR has been used as a surrogate outcome for overall survival

6. Conclusion

The introduction of Pembrolizumab into TNBC treatment achieved a lower rate of pCR in our clinical population compared with the KEYNOTE-522 trial population.

7. Recommendations

1. Compare results to rates of pCR in Worcestershire **prior to use of Pembrolizumab**, to demonstrate if this new treatment has improved patient outcomes.
2. Assess the outcomes of Pembrolizumab in a **larger population of TBNC patients** to understand the true effectiveness of this treatment in clinical practice.
3. Impact of Pembrolizumab on **long-term survival**, as well as outcomes after adjuvant use of Pembrolizumab should be investigated.

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Importance of point of care ultrasound in the diagnosis of severe mitral regurgitation

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Background

Point-of-care ultrasound (POCUS) is an integral complementary diagnostic and procedural tool.[1] With appropriate training, POCUS can enhance the traditional physical examination and bedside decision-making.[1]

Case

A 70-year-old male previously fit and well referred by his general practitioner (GP) was admitted to our acute medical unit (AMU) with new shortness of breath, paroxysmal nocturnal dyspnoea and orthopnoea which progressed rapidly over three weeks.

Upon initial assessment in AMU, the patient was haemodynamically stable and comfortable at rest. Auscultation revealed a holosystolic murmur radiating to the left axilla. A bedside point of care ultrasound (POCUS) demonstrated severe mitral regurgitation (MR) with a flail posterior mitral valve leaflet and a broad colour flow doppler jet extending to the back of the left atrium (Figure 1). Lung POCUS showed a bilateral B-line profile, consistent with pulmonary oedema.

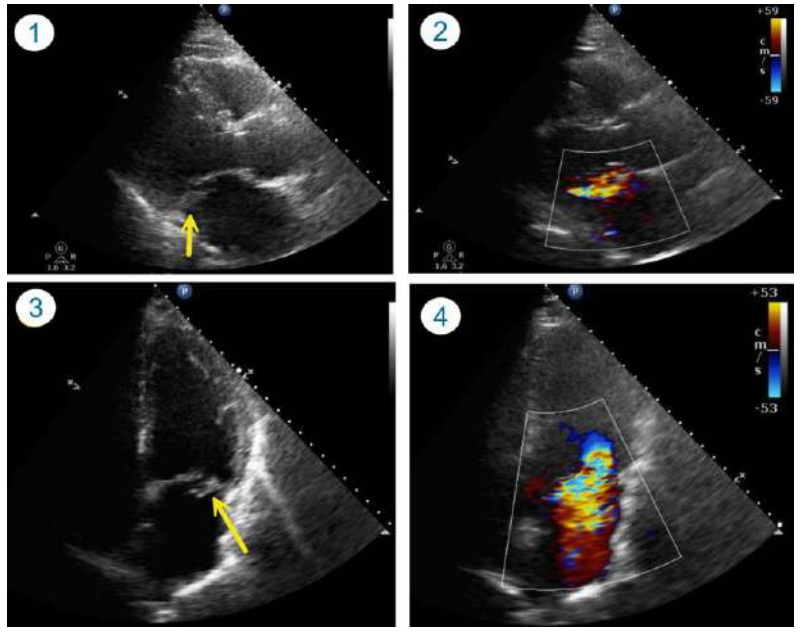

Figure 1: *1.PLAX showing a dilated left atrium and ventricle with posterior mitral leaflet prolapse (arrow). 2. PLAX with colour flow doppler showing mitral regurgitation. 3. A4C showing posterior mitral valve leaflet prolapse (arrow). 4. A4C with colour doppler showing mitral regurgitation.*

Transoesophageal echocardiography (TOE) confirmed severe MR due to flail posterior mitral leaflet with mobile chordal apparatus (Figure 2). He underwent successful surgical mitral valvular repair. After an unremarkable stay, he was discharged and has since remained well.

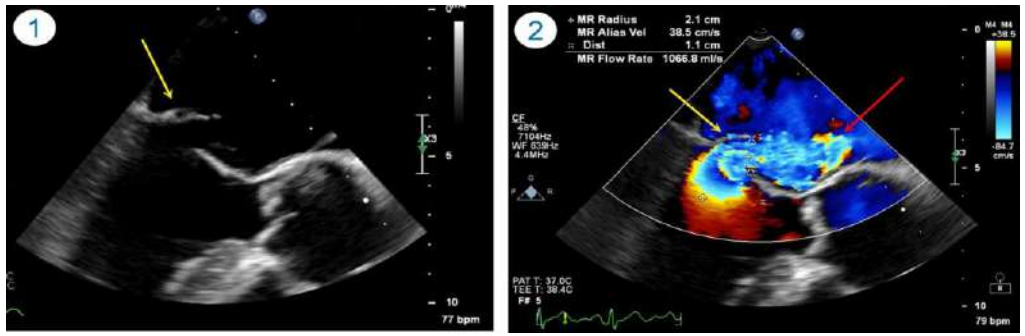

Figure 2: *1. TOE mid-oesophageal long axis view showing flail posterior leaflet (arrow). 2. TOE mid oesophageal long axis view with colour doppler showing flail posterior mitral valve leaflet (arrow), and a broad eccentric jet of mitral regurgitation (blue colour doppler and red arrow) consistent with severe mitral regurgitation.*

Discussion

Up to 50% of acute moderate to severe MR cases are reported to have no audible murmur, also known as silent MR.[2] Improving technology and availability has increased the potential for POCUS to enhance patient care through improved diagnostic accuracy and procedural safety.[1] This sentiment has already been adopted by multiple national medical bodies that advocate or mandate the use of USS.[3,4] However, POCUS is yet to be included in the internal medicine training curriculum.

Our patient may have eventually had an echocardiogram and diagnosis. However, the wait for a formal echocardiogram would have inevitably resulted in further delay in diagnosis and intervention. This case highlights the important role of POCUS in complementing traditional bedside examination.

University Hospitals of Leicester NHS Trust

NHS England

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An Interesting Case of Strongyloides Hyperinfection Syndrome in an Immunocompromised Patient

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NHS Lewisham and Greenwich NHS Trust

Introduction

Strongyloidiasis is an intestinal parasitic infection[1]. Mild gastrointestinal symptoms are typically seen in immunocompetent hosts[1]. However, in immunocompromised patients, there is a risk of hyperinfection syndrome with potential fatal complications[2].

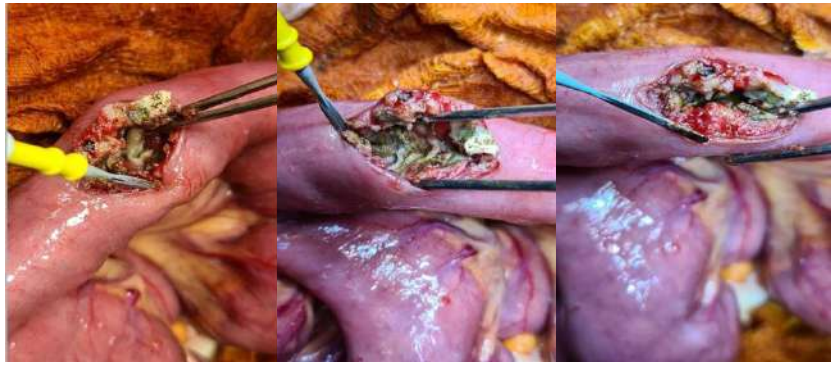
Case Description

- Presenting complaint - 42-year-old female presented with a 4-week history of diffuse abdominal pain, diarrhoea, and nausea.
- Background - Liver transplant for primary biliary cholangitis.
- Medications - immunosuppression regimen consisted of tacrolimus and prednisolone.
- Social History - worked as a delivery driver, was born in the UK, and had limited travel history.
- On assessment - afebrile with a soft but diffusely tender and distended abdomen.
- Investigations of note - CRP 52, WCC 3.0 x10^9 cells/L. Blood cultures, HIV testing, and stool culture negative.
- Progress - She developed intractable vomiting, persistent high-grade pyrexia and an acute abdomen, requiring ventilatory and vasopressor support. CT scans revealed persistent small bowel obstruction with interval increase in luminal distension (Figure 1).

Methods

Patient data and images were anonymised in accordance with NHS data protection standards prior to inclusion in this case report.

Imaging and Intra-Operative Findings



Figures 2-4

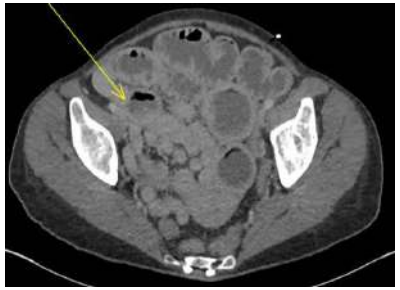


Figure 1 - yellow arrow indicating likely point of obstruction

The patient underwent a laparotomy, small bowel resection and creation of double-barrelled stoma. Intra-operative findings noted the presence of *dense glue-like yellow luminal material* of unknown aetiology (Figures 2-4).

Diagnosis and Treatment

- Cytopathology studies revealed the presence of Strongyloides stercoralis larvae in her bowel specimen, nasogastric aspirate and sputum. Donor was confirmed as the source.
- S. stercoralis was treated with ivermectin and albendazole.
- 8 days post treatment, she tested negative for S. stercoralis.

Discussion

- Long term corticosteroid use is a strong risk factor associated with dissemination of the disease and worse outcomes[2,3]. Mortality rate is as high as 87%[2,3]. Early diagnosis and treatment are, therefore, imperative to prevent hyperinfection.
- Marked eosinophilia is characteristic of Strongyloides infection in immunocompetent individuals, seen in up to 90% of cases[1]. Conversely, in hyperinfection syndrome, high larvae burden but few eosinophils are observed[3-5]. Consequently, a high level of clinical suspicion is required.
- Parasitic infection ought to be considered in the differential diagnosis of gastrointestinal illness of immunocompromised patients as the consequences can be fatal.

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COLA LIKE BLOOD : A CASE REPORT

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A
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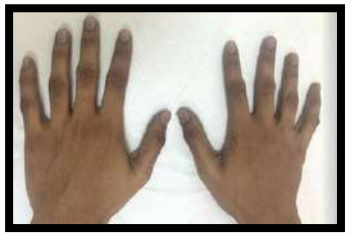
INTRODUCTION

- Methemoglobinemia is caused due to accumulation of methemoglobin- the iron component of heme undergoes oxidation, resulting in conversion to ferric (Fe3+) state which cannot effectively transport oxygen, leading to cyanosis.
- It can be hereditary due to genetic anomalies affecting red blood cell metabolism and structure or acquired through exposure to oxidant drugs or toxins.
- The normal physiologic level of methemoglobin is 0-2% of total Hb levels, up to 30% generally being well tolerated. Beyond this, symptoms tend to develop, with >70% possibly resulting in death.
- The clinical presentation varies from mildly symptomatic to severe, including cyanosis, pallor, fatigue, headache, seizures, dysrhythmias and finally coma and death.

CASE PRESENTATION

- A 27-year-old gentleman was referred to the haematology clinic for asymptomatic cyanosis since childhood.
- On examination, peripheral cyanosis (fig 1) with no saturation mismatch was noted.



(fig 1)

- His blood samples appeared darker than normal, remarked jokingly as 'cola like blood' (fig 2) by the patient – alerting us towards possible hemoglobinopathy.
- Investigations revealed haemoglobin level of 18g/dL, haematocrit of 53, erythropoietin & glucose-6-phosphate-dehydrogenase levels were normal.
- His venous p50 showed a left shift of oxygen dissociation curve, suggestive of high oxygen affinity. The methemoglobin level was 18% (3.2g/dL).
- Targeted gene sequencing was done.
- **A homozygous missense variant was detected in exon 3 of the Cytochrome B5 Reductase3 (CYB5R3) gene, inherited in an autosomal recessive manner, resulting in substitution of Glutamine for Arginine at codon 58.**

This is seen in Methemoglobinemia due to nicotinamide adenine dinucleotide (NADH)-CYB5R3 deficiency (OMIM#250800).

- **The patient was diagnosed to have hereditary**
- **enzymopaenic methemoglobinemia type I.**
- **It is likely a pathogenic variant, reported in patients with hereditary methemoglobinemia, types I and III. Experimental studies have shown that this missense change affects CYB5R3 function.**

(fig 2)

- Family screening was offered; they were not keen for the same.
- He was provided with a list of precautions including avoidance of oxidizing agents and was asymptomatic on follow-up.

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DISCUSSION

- Hereditary methemoglobinemia is an autosomal recessive disorder, caused due to deficiency of NADH-CYB5R3, the enzyme which helps convert methemoglobin to hemoglobin in healthy individuals.
- In type I hereditary methemoglobinemia, the deficiency is in soluble form of the enzyme, affecting only erythrocytes. It presents with cyanosis, and often exhibit erythrocytosis– as seen in this patient.
- Molecular testing is the gold standard in diagnosis.
- The gene responsible for coding of NADH CYB5R3 is in chromosome 22q13qter, mutations have been identified.
- The management in type I hereditary methemoglobinemia is observation and avoidance of oxidant drugs, as the course is benign.
- Treatment may be needed if oxidant drugs cannot be avoided or for cosmetic reasons– Ascorbic acid 300 to 600mg daily may be beneficial.

RIFAMPICIN–INDUCED THROMBOCYTOPENIA IN PROGRESSIVE SYSTEMIC SCLEROSIS

Baijaeek Sain, Rupali Sachdev, Priyanka Sahajwani, Ritam Chakraborty

Background

Drug-induced immune thrombocytopenia is a life-threatening clinical condition that is underrecognized and whose diagnosis presents significant clinical challenges.

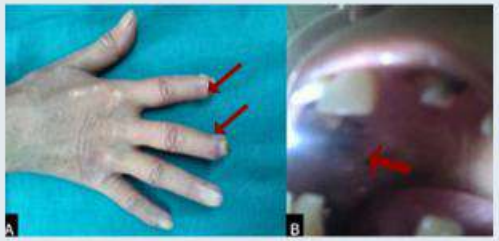
All first-line anti-tuberculosis drugs (ATDs) can cause thrombocytopenia. Thrombocytopenia characteristically occurs **5 to 10 days after initial drug exposure, with median nadir platelet counts < 20,109/L.**

History & Examination

A 38-year-old female patient presented with complaints of active gum bleeding, palatal bleeding, and purpuric spots in both of her lower limbs for 7 days. On a background of progressive systemic sclerosis (PSS) and interstitial lung disease for which she was under injectable bolus Cyclophosphamide monthly (500mg) for 6 months.
Then diagnosed with sputum-positive pulmonary tuberculosis the following year and started on CAT1 ATD DOTS.

There was no history of recent new drug intake or recent surgery ,no complaints of new onset joint pains or other features of serositis, no history of viral illness (dengue) was given.

Clinical examination revealed **palpable, non-blanching purpura on both lower limbs, active gum bleeding and palatal ulcers.**



A: Sclerodactyly - localized thickening and tightness of the skin of the fingers or toes giving a claw-like appearance

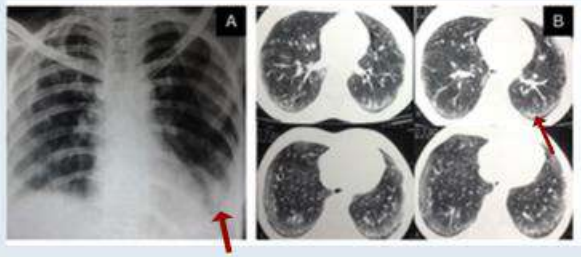
B: Palatal ulcers

Investigations

Systemic sclerosis was diagnosed clinically (Sclerodactyly, Raynaud's phenomenon) and with raised inflammatory markers (ANA 1:320, RA positive).
Interstitial lung disease on spirometry (FVC 47% predicted) and **pleural thickening, ground glass opacities, and volume loss** were among the key findings on HRCT thorax and hiatus hernia via UGI endoscopy.
Her presentation with chronic cough and low-grade fever raised suspicion of tuberculosis, confirmed by sputum AFB 3+, CBNAAT sensitivity to rifampicin, and ICTC was non-reactive.

Investigations done on day 1 of her admission Haemoglobin 8.6%, TLC 8500, and Platelets <10,000. Chest X-ray showed **bilateral pleural effusion.**

All other imaging and bone marrow biopsy was normal. Viral markers were negative for dengue NS1, no malarial antigen, the investigation panel for connective tissue disorder, and nutritional levels were normal.



A: Chest X-ray showing bilateral pleural effusion

B: Pleural thickening, ground glass opacities, and volume loss were among the key findings on HRCT thorax

Treatment

She was previously on immunosuppressive therapy for systemic sclerosis. The intensive phase was started after a confirmed diagnosis of TB for 3 months and was later switched to the continuous phase. She was transfused with eight units of platelet concentrates initially in 3 days, and platelet counts remained as low as 5000 post-transfusion.

Clinical Course

ATD was withdrawan on day six of her admission. Corticosteroids were started once again which had been withheld at the time of the TB diagnosis
She received two units of platelet concentrate transfusion on day seven. Platelet levels began rising after that and were recorded as high as 65000 on day ten.

There was no clinical evidence of joint pain, photosensitive rash, or serositis, and bone marrow biopsy revealed normal replicating marrow with no granuloma or malignancy.

On day thirteen, Isoniazid was reintroduced in a low dose of 100 mg with an increase to 300 mg gradually, with **no change in platelet level (400,000 on day fifteen).** Rifampicin was reintroduced in a small dose starting at 50 mg with a gradual increase to 300 mg. On the third day after its introduction, **we noticed that platelet levels started to drop, reaching as low as 45,000.** (Figure 1) Rifampicin was hence omitted and Ethambutol was introduced with monitoring platelets. No adverse change in their levels was seen.

Figure 1: Variation in platelet count as the treatment progressed

Outcome & Follow-Up

At the end of her month-long stay patient recovered. Rifampicin was omitted from the current treatment plan and follow-up was requested as an outpatient, which was unremarkable, with full resolution of symptoms.

Hypercalcemia - A Diagnostic Conundrum

Dr.Sadhiya Siyad, Dr.Smitha Muraletharan,Dr.Smrithy Divakaran,Dr.Shabana T; Dr.Asha Jose, Dr.Geetha Philip- Aster Medcity,India

Introduction :

- Hypercalcemia occurs in up to 4% of the population in association with malignancy, primary hyperparathyroidism, ingestion of excessive calcium and/or vitamin D, ectopic production of 1,25-dihydroxyvitamin D and impaired degradation of 1,25(OH)2D.[1]
- Cancer associated hypercalcemia and primary hyperparathyroidism are the most frequent causes of hypercalcemia.

Case report :

- 58 year old lady,known to have type 2 diabetes mellitus, chronic kidney disease, dyslipidemia.
- Complaints of decreased food intake and generalized tiredness since 2 days.She was admitted at an outside center with history of decreased response.Also had history of chronic cough since 6 months with weight loss of about 6kgs.CT brain – normal.
- On examination- she was irritable,drowsy,afebrile.Blood pressure was elevated (170/80mmHg). Rest systemic examination was normal, no focal neurologic deficits.
- Started on antihypertensives ,IV fluids with correction of dyselectrolytemia and other supportive measures.
- She had multiple episodes of seizures with decreased response and was intubated,mechanically ventilated.

Calcium-15.2mg/dl	Phosphorous-low	Magnesium-low	Potassium-low	Creatinine-high	ALP-high, A/G reversal	Uric acid -high	ACE,ESR -high
25 (OH)D-141.7nmol/L	**1,25 $(OH)_2$ D-391pmol/L,Toxic**	PTH-Normal	TB panel negative	BAL-Influenza A positive	SPEP,Immunofixation lectrophoresis - Normal	free kappa,lambda chains-Normal	Beta 2 microglobulin-Normal

- MRI brain - Posterior reversible encephalopathy syndrome. CT chest- discrete sub pleural nodules in bilateral upper lobes and right middle lobe.
- Bone marrow aspirate - paucicellular marrow with 8% plasma cell; biopsy normal.
- Her blood calcium levels had a rising trend, Calcitonin and Denosumab, IV steroids given.
- PET scan - no FDG avid lesions.
- A possibility of Hypervitaminosis D was considered.
- Patient sensorium improved, was obeying commands and extubated successfully. Calcium values normalized and she was discharged.

Discussion:

- Although relatively uncommon in comparison to cancer-associated hypercalcemia and primary hyperparathyroidism, the true prevalence of vitamin D-mediated hypercalcemia is unknown.
- Vitamin D toxicity and its clinical manifestation, severe hypercalcemia, are related to excessive long-term intake of vitamin D, malfunctions of the vitamin D metabolic pathway, or the existence of coincident disease that produces the active vitamin D metabolite locally.[2]

Conclusion:

Our case was a diagnostic challenge and a stepwise approach ruling out all the possibilities including malignancy aided in clinching the diagnosis.It brings light to the fact that increased intake of vitamin D supplements by the general population and a growing number of prescriptions of therapeutic doses without proper medical monitoring might result in a greater risk of exogenous hypervitaminosis D, with symptoms of hypercalcemia.

The presentation of our case highlights the importance of calcium level screening prior to vitamin D supplementation.The patient is on follow up in view of possibility of an underlying granulomatous disease due to raised ACE,ESR and lung nodules.

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Use of IV Immunoglobulin to Treat Steroid Resistant, Immune Checkpoint Inhibitor induced Pure Red Cell Aplasia. A Case Report.

Samuel Sherratt-Mayhew[1], Phillip Nicolson[1,2].

1. Institute of Cardiovascular Sciences, University of Birmingham.
2. Department of Haematology, University Hospitals Birmingham NHS Foundation Trust.

Background:

Pure Red Cell Aplasia (PRCA) is a rare but serious immune related condition. It is characterised by a normocytic normochromic anaemia with a reticulocytopenia. On bone marrow biopsy there are reduced erythroid precursors[1].
PRCA is often idiopathic but can be associated with infection or drug therapies[1].
High dose steroids are the first line treatment. There is limited guidance on second line options.
Immune Checkpoint Inhibitors (ICIs) are efficacious immunotherapies used to treat many malignancies, including melanomas[2]. They naturally inhibit T cell checkpoints to enhance immune response[3].
Here we describe a PRCA case secondary to nivolumab and ipilimumab (ICIs) that was refractory to steroids. IV Immunoglobulin (IVIG) was used successfully second line. The patient didn't relapse on ICI therapy reinitiation.

Patient history and presentation:

- 38-year-old white British female.
- PMH: Addison's disease, localised BRAF V600-mutated melanoma (received WLE 6 years before presentation).
- 5 years after her WLE she represented with local recurrence and distal metastasis. She was started on dabrafenib and trametinib.
- Following side effects on this regime she was swapped to nivolumab and ipilimumab.
- 97 days later she presented with fatigue, nausea and exertional dyspnoea.
- Bone marrow biopsy was characteristic of PRCA (*Figure 1*).
- Blood tests found pancytopenia (*Figure 2*).
- Further investigations found undetectable haptoglobin, high LDH (495 u/l) and a strongly positive direct combs test (3+), confirming haemolysis. Reticulocytes were low (*Figure 2*).
- Viral PCR for parvo-, Epstein-Barr and adenovirus were negative.
- Haematinics were normal.

Timeline of interventions:

Throughout the patient's treatment, MCV ranged between 88.8 and 99.7fL (reference range 81-102fL) indicating a normocytic anaemia.
A neutropenia of $1.1x10^9$ cells/l (reference range $1.5\text{-}7.1x10^9$/l) was seen on admission but this responded to steroids in 10 days.
Lymphocyte count was normal throughout.

Figure 1 (right): *Bone marrow trephine showing erythroid hypoplasia with absent erythroid islands, stained with Haematoxylin and Eosin (A) and reduced erythroid activity, stained with anti-CD71 (transferrin receptor 1) antibody (B).*
With thanks to Dr Bindu Vidyanath.

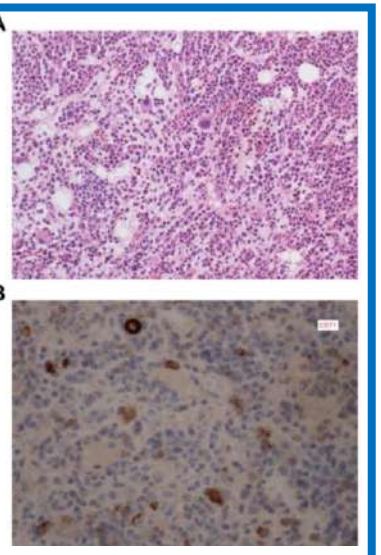
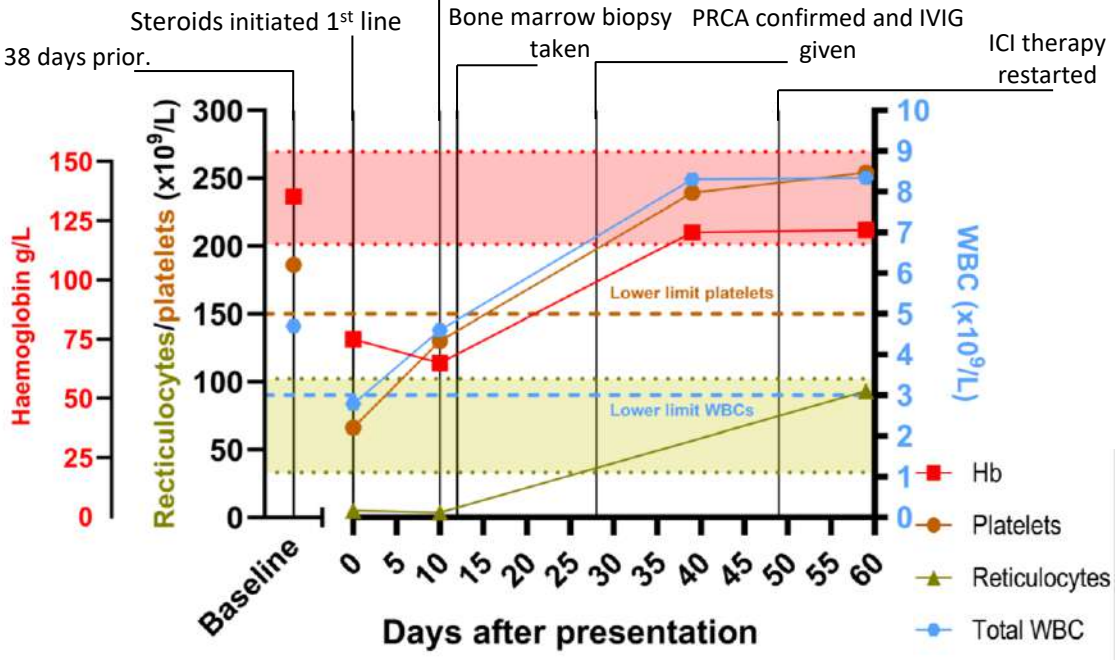


Figure 2 (below): *Timeline of events with accompanying lab results.*



Discussion:

On review of the literature, Guo et al. were found to have the most comprehensive case series on immunotherapy induced PRCA[4].
Of 5 patients whose PRCA was resistant to steroid treatment, 2 were treated with IVIG, 3 with ciclosporin. One was rechallenged with ICI but their PRCA relapsed.
A recent case in which ICI induced, steroid refractory PRCA was treated with IVIG and ciclosporin resulted in successful ICI reinitiation[5].
IVIG was justified in this case due to rapid onset of action. There was fear of imminent melanoma relapse. IVIG was given at 1g/kg.
The mechanism of action of IVIG is unknown, but the most plausible is the swamping of Fc receptors.

Conclusion:

This case confirms the high efficacy of IVIG in treating PRCA, a potentially fatal complication of ICI therapy. Additionally, IVIG should be used second line ahead of ciclosporin due to IVIG's faster action. This case also shows that IVIG therapy prevents recurrence of PRCA even on re-exposure to ICI therapy, which is ideal in patients with malignancy.

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A RARE ADVERSE EFFECT OF CHRONIC USE OF FACE MASK IN FACTORY WORKER :

SECONDARY PYODERMA

Kanakath Sanvi; Davis Thomas Pulimootil; Sneha Mary Joy; Neenu Anna Joseph

Abstract

Introduction: Prolonged face mask usage can lead to dermatological side effects, emphasizing the need for vigilance and proper hygiene. **Case Report**: A 50-year-old factory worker developed secondary pyoderma after persistent cloth mask use. **Conclusion**: This is the first report of secondary pyoderma following cloth mask use in the literature.
Keywords: COVID-19; face masks; dermatological complications; pyoderma.

Introduction

The COVID-19 pandemic popularized face-mask use to curb virus spread, causing skin issues due to prolonged wear. Masks create warm, moist environments, altering skin conditions around the mouth, nose, and ears. Common complications include rashes, urticaria, and bacterial infections.

Case presentation

A 50-year-old female factory worker, persistently wearing a cloth face-mask for six months, developed fleshy growths over bilateral supra-auricular regions. No prior dermatological issues were reported.

Figure 1: Proliferative pyodermic lesions over bilateral supra-auricular regions

Figure 2: Status post-medical treatment on Day 14

A provisional diagnosis of **Pyoderma following chronic mask use** was made (Fig.1) The patient was managed conservatively with oral Amoxclav and topical mupirocin. On review on Day 14, the lesions had almost completely resolved. (Fig. 2)

Discussion

Factors like **duration of wear (>6 hours/day)** and **skin characteristics** contribute to skin complications. This case of secondary pyoderma highlights the need for mask hygiene, breaks, and alternative materials/designs, along with appropriate antibiotic treatment. This is the first reported case in the literature of secondary pyoderma as a complication of chronic cloth face mask use.

Conclusion

The rarity of the case merits attention and highlights the need for healthcare professionals and individuals to recognize and manage potential adverse skin reactions associated with prolonged cloth face mask use. Further research and awareness are essential to address and mitigate rare but possible complications arising from prolonged mask wear during the ongoing pandemic.

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Wheeze or stridor? A careful listening to prevent impending respiratory doom

Saquib Navid Siddiqui

Freeman Hospital, Newcastle Upon Tyne NHS Trust

Royal College of Physicians

Case Presentation

Background

- 45-year-old gentleman
- Known asthmatic
- Recent discharge 10-days ago from the hospital
- Required critical-care admission (less than 72 hours) for intubation following a near fatal asthma

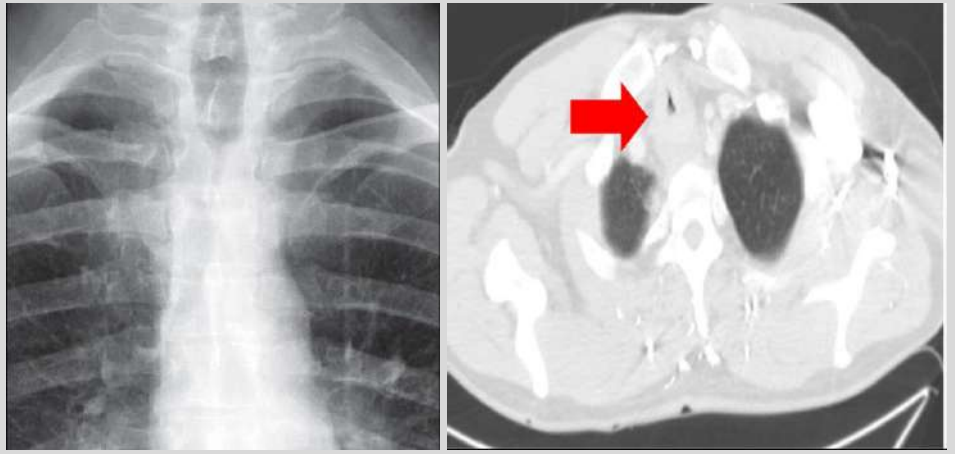
Presentation to A&E

- Presented to the A&E with breathlessness
- O/E: Audible wheeze from bedside noted by the A&E doctor
- Treated under acute severe asthma pathway- oxygen support (10L via 40% venturi mask), bronchodilator, and steroid
- He was being treated in the corridor without supervision.

Progression

- Medical registrar on call noticed patient having stridor while passing through the A&E corridor
- Chest X-ray showed abnormal looking trachea
- Bedside PEFR and handheld spirometry
- PEF 120L/min
- FEV1 1.44L, FVC 2.2L, FEV1/FVC 0.68
- Empey index 1440/120= 12
- ABG- T1RF (pH 7.56, pO2 7.8, pCo2 3.7, Sao2 83%)

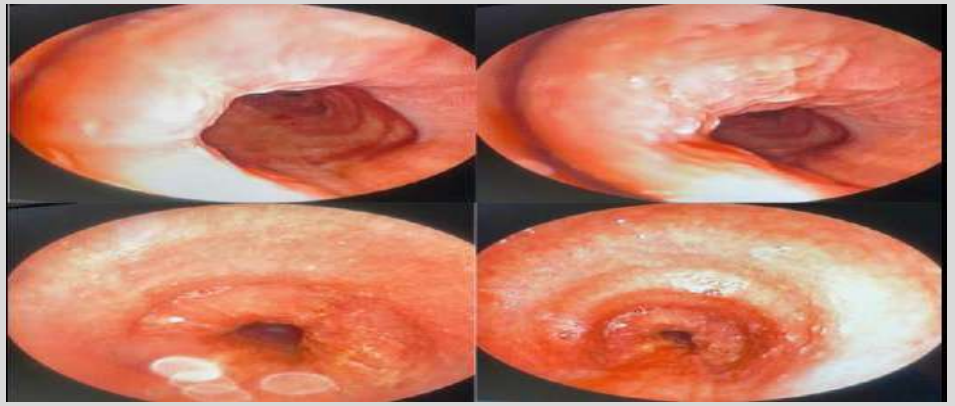
Imaging



Chest X-ray and subsequent CT chest revealing stenosed trachea

Management

➢ Call for help- Critical care team, ENT, Cardiothoracic team, Respiratory Team
➢ Patient transferred to the theatre for urgent rigid bronchoscopy



80% narrowing of the tracheal lumen noted. Dilatation and stent placement

Tracheal stenosis

Literature Insight

☞ 11% of critically ill patients had developed tracheal stenosis at the cuff site despite high-volume low- pressure cuff.[1]

☞ Tracheal damage and subsequent stenosis can occur in any patient after the intubation of any duration even as short as 24 hour[2]

Clinical lesson

Availability bias	Known asthmatics coming with breathlessness- it's asthma exacerbation!
Framing bias	Audible noise from chest of known asthmatics- thoughts were immediately steered towards wheeze!
Anchoring bias	Treatment pathway initiated in this case took no consideration of recent history of intubation
Confirmation bias	Failure to identify stridor and tracheal abnormality in the CXR steered towards wrong treatment pathway

Take Home Messages

- A reminder for careful clinical observation to differentiate stridor from wheeze in asthmatic.
- Patients with recent intubation can present with tracheal stenosis.
- Empey index is a reliable bedside test supporting the diagnosis of tracheal stenosis.

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Crescentic IgA Glomerulonephritis in Psoriatic Arthritis – Disease or Treatment Related?

Dr S Premraj, Dr B Camilleri, Dr S Lane; Ipswich Hospital, ESNEFT, Ipswich, IP4 5PD

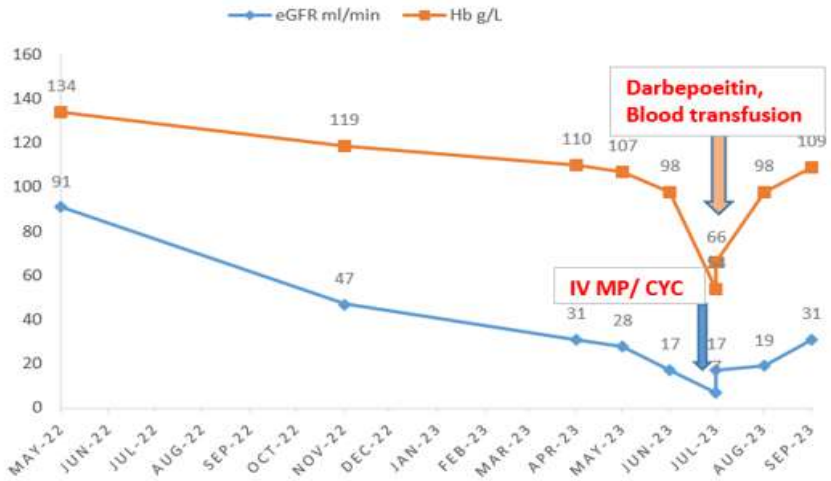
Case Report:

A 64-year-old lady with **psoriatic arthritis (PSA**) diagnosed 1998, arthritis was initially resistant to treatment, but remission was reached after 2008 with **Adalimumab** (Humira) 40mg SC fortnightly; and **methotrexate** 15mg SC weekly.
She was noted to have **declining renal functions** (eGFR 31ml/min, Urine PCR 289 mg/mmol) in April 2023. Methotrexate, Adalimumab and Ramipril were discontinued, infection, dehydration and urological causes were excluded. In June 2023, she was admitted with uraemic symptoms, Pulse 112/min, BP 173/103mmHg, O2 sat 96%, eGFR 17ml/min.

Investigations: Normochromic, normocytic **anaemia**, acidosis, hypocalcaemia and hyperphosphataemia, low transferrin with **raised IgA 6.29g/l.** Other investigations were normal (ANA, ANCA, complement, light chains, electrophoresis, anti-GBM, blood / urine cultures, iron, ferritin, coagulation, viral screens). **Renal biopsy** showed **glomerulonephritis and mesangial IgA and C3 deposition** on immunohistochemistry, consistent with an active IgA nephropathy (diffuse proliferative and crescentic glomerulonephritis).

Clinical Impression was **Anti-TNF-related IgA Nephropathy**, CKD-related anaemia (treated with Darbepoeitin 50mcg). **IV Methylprednisolone 1g** daily x 3 and **IV cyclophosphamide 950 mg** with Mesna and Cotrimoxazole were started. She was discharged with Prednisolone 30mg/day.

Fourteen days later she had haematemesis, anaemia, with severe **pyloric/ duodenal ulcers** requiring endoscopic adrenaline injections, IV pantoprazole and 3units PRBC transfusion. After second cyclophosphamide, prednisolone 30mg and darbepoeitin 50mcg were continued on discharge, BP 160/95mmHg. Ten days later, she developed left hemiplegia and hemianaesthesia, BP 217/141 mmHg, GCS 14/15, NHSS score 18 with **large right parietal intracranial haemorrhage**. GCS dropped to 10/15, she underwent right decompression hemicraniectomy. She is currently rehabilitating, maintained on prednisolone 30mg/day.



	May-22	Nov-22	Apr-23	May-23	Jun-23	Jul-23	Jul-23	Aug-23	Sep-23
eGFR (ml/min)	91	47	31	28	17	7	17	19	31
Hb (g/L)	134	119	110	107	98	54	66	98	109
Urine PCR (mg/mmol)				289		564	577		686

This rapidly progressive crescentic **IgA glomerulonephritis was likely secondary to adalimumab,** having excluded liver disease, viruses, myeloma, malignancy, drugs. Although psoriasis and PSA cause IgA nephropathy, this is usually associated with high disease activity.

Anti-TNF induced IgA nephropathy may develop years after initiation. Psoriasis and PSA related IgA nephropathy usually takes an indolent course, whereas TNF-inhibitor induced nephropathy appears more aggressive. Next step for PSA treatment is unclear, but Secukinumab (IL-17A monoclonal antibody) has been reported to be successful.

Pituitary Apoplexy Leading To Stress-related Cardiomyopathy And Ischaemic Stroke -- A Rare Finding

Authors: Sayak, Roy; Pradeep, Singh; Ahmad, Khwanda; Hyma, Rachabattula

Consultants, Princess Royal University Hospital, King's College Hospital NHS Foundation Trust

Case presentation:

54 years old male – admitted with:

- dizziness
- sudden onset severe headache
- severe low sodium
- normal renal profile
- normal urine osmolality
- low plasma osmolality
- urine sodium level of 173 mmol/L
- **very low mid-day random cortisol – urgent IV steroid replacement started**
- **CTH** - *significant **contrast-enhancing macro adenoma arising from the pituitary fossa** with suprasellar extension*

After 48 hours:

- Increased confusion, agitated and had some subclinical seizure-like activity
- **Urgent *MRI head* – suggestive of Pituitary Apoplexy (PA)** (figure 1)
- New onset bradycardia, with new onset T-wave inversions, and incidentally raised troponin
- ***Echocardiography with contrast*** (figure 1) showed a **balloon-shaped heart, hypokinesia of the apical segment**, reduced ejection fraction of 45%, and a significant avascular filling defect in the left ventricle, raising the **probability of a left ventricle thrombus**
- **CT Thorax – confirms LV Thrombus** (figure 1)

12th day of admission:

- New confusion, incomprehensible words, and slurring of speech
- CT-angiogram of cerebral vessels (figure 1) **- occlusion of the internal carotid artery up to the M1 region of the left middle cerebral artery (LMCA), suggesting a long thrombus**
- Immediate thrombectomy was performed with a remarkable post-thrombectomy improvement

Later:

- *Cardiac MR* (figure 1) suggested a diagnosis of global stress-related cardiomyopathy (SRC) with **a *significant improvement of the regional wall motion abnormalities, LV thrombus reduction and improvement of ejection fraction*** compared to previous echocardiography
- *Coronary artery angiogram* (figure1), done later, showed ***no significant coronary artery disease***, **confirming the diagnosis of SRC**.

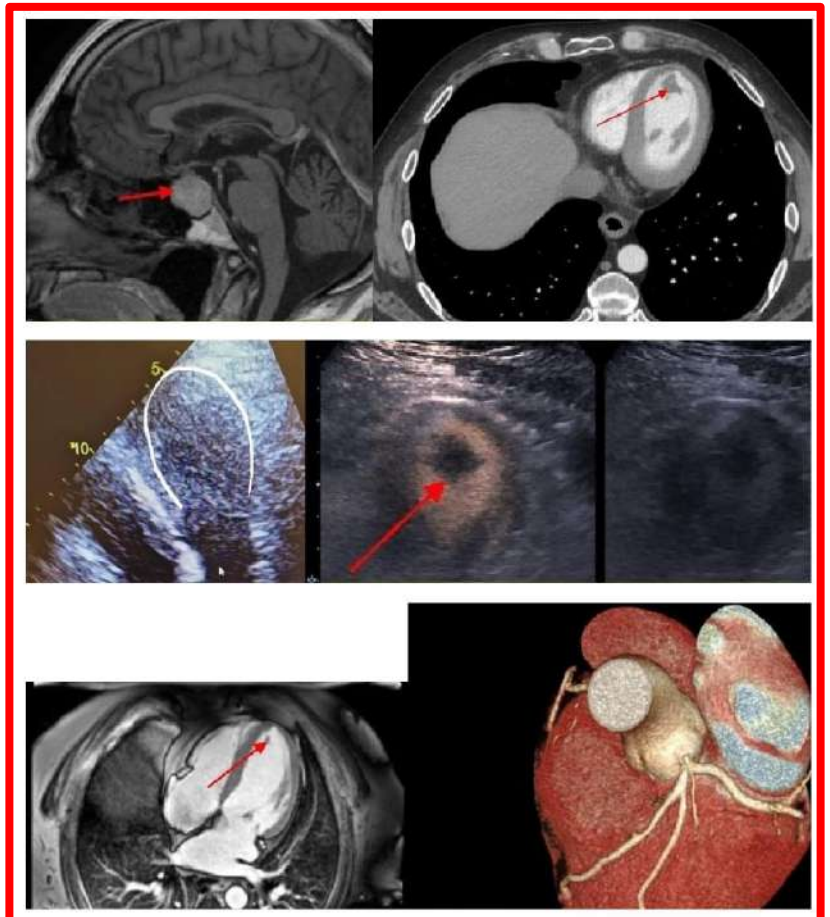


Fig 1: Compiled picture showing the pituitary MRI, ultrasound heart, CT thorax, Echocardiography of heart, cardiac MRI, and coronary CT angiography

Top left *- pituitary MRI showing pituitary lesion – 23 mm;* ***Top right*** *- CT thorax showing large volume LV thrombus;* ***Middle left*** *- Echocardiography of heart showing ballooning of heart suggestive of SRC;* ***Middle right*** *- Ultrasound of heart with contrast showing avascular lesion in LV (done with Sonoview);* ***Bottom left*** *- Cardiac MRI showing decrease in LV thrombus load;* ***Bottom right*** *- Coronary CT angiography showing patent coronary arteries*

Abbreviations: *MR – magnetic resonance imaging; CT – computed tomography; LV – left ventricle; SRC – stress related cardiomyopathy*

Conclusion:

Our case reverberates the finding that PA can lead to SRC, rarely, though, which can subsequently lead to thrombus formation that can lead to ischaemic stroke.

Investigating the prescription patterns of HRT in women with type 2 diabetes and its effects

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Imperial College London

Background

Within the last few decades, an increasing lifespan and average menopausal age has resulted in a higher proportion of menopausal patients with type 2 diabetes (T2DM).[1] (1)
Hormone replacement therapy (HRT) can be used to supplement hormones that are lost during the menopausal transition.
Limited studies have analyzed HRT prevalence in the diabetic population5 (2), although increased cardiovascular risks in diabetic women appears to deter clinicians from prescribing HRT with diabetes.6 (3) Studies that have analyzed the association have been conducted in specialist menopause clinics (4), had high loss to follow up (5), and were unable to collect individual patient level data (6).
In women without diabetes, HRT has been shown to reduce cardiovascular risk by 50% (7). There is limited evidence for extrapolation of the favorable effects of exogenous estrogens to women without diabetes. We aim to identify possible overlooked opportunities to inform women with diabetes of the benefits of HRT as an intervention with potential to mitigate cardiovascular events.

Hypothesis and Aims

Hypothesis

1. Current HRT prevalence is lower in diabetic vs non-diabetic postmenopausal women
2. HbA1c and lipid profiles will reap beneficial effects from HRT in women with diabetes

Aims

1. To investigate the prescription patterns of HRT in menopausal women with T2DM
2. To investigate the effects of HRT use on the glycemic control and lipid profiles of this cohort.

Methods

Data Sourcing

Patient data was accessed via Cerner on women aged 40-65 who had attended the Diabetes and Endocrine Clinics. A survey was sent to this patient population. Data was collected on demographics, menopause status, HRT use, comorbidities, diabetes control and lipid profiles.
A survey was conducted in this patient population to retrieve data not attainable from Cerner.

Statistical Analysis

The primary outcome variable was previous or current HRT use or having been offered HRT by a clinician. The exposure was diabetes diagnosis.
Stage 1
Descriptive analysis assessing for significant association between HRT and relevant variables. Between group comparisons were conducted using Fisher exact test or χ^2 for categorical variables; Mann Whitney-U or Students t-test was used for continuous variables. Distribution of continuous variables was assessed using D'Agostino & Pearson test. Binary logistic regression was employed to calculate crude odds ratio.
Stage 2
Multivariate analysis was conducted to assess for independent association with HRT. Multiple logistic regression output odds ratio, adjusting for confounders.

Results

Of 300 women in the initial dataset, 160 were included in our final analysis.

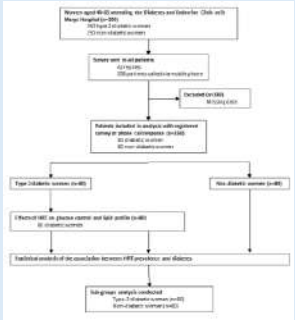

Figure 1: Flow diagram of patient data collections and analysis.
HRT, Hormone Replacement Therapy

Diabetes and HRT prevalence

HRT prevalence was significantly lower in diabetic women ($p<0.0001$). After adjusting for confounders, diabetes remained an independent predictor of decreased HRT prevalence ($p>0.0001$). Weight and HbA1c was significantly lower in the HRT group ($p<0.05$).. Increasing weight decreased HRT prevalence ($p=0.0533$). White ethnicity was an independent predictor for increased HRT prevalence ($p<0.05$).

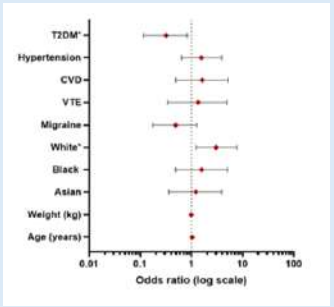

Figure 2: Forest plot of multivariate adjusted odds ratios of HRT prevalence in Type 2 diabetes mellitus. represents adjusted odds ratios. Error bars represent 95% confidence intervals. Significance is indicated by confidence intervals not crossing the line of null effect. Variables on the y-axis were identified as possible confounders and adjusted for in multivariate logistic regression. n=80.
T2DM, Type 2 diabetes mellitus; CVD, cardiovascular disease; VTE, venous thromboembolism; kg, kilograms
**p value <0.05; **p value <0.0001*

HRT and Glucose Control and Lipid Profile

There was no significant differences in HbA1c, HDL, LDL or triglyceride amongst diabetic patients receiving and not receiving HRT. Mean HbA1c and LDL was, however, lower in diabetic patients taking HRT.

Discussion and Future Work

These findings are analogous to previous studies demonstrating women with diabetes are denied the potential benefits of HRT(4). Insufficient knowledge of HRT may account for low HRT prevalence in diabetic women. Understandably, perhaps the widespread panic from randomized controlled trials reporting increased CDV and VTE frequency with HRT (8) still lingers. Moreover, anxiety around detrimental effects to glycemic control could dissuade diabetic women from HRT - in one diabetes clinic, only 35% of female patients thought HRT use was safe in diabetes (9).
Variation in HRT prevalence possibly represents differences in health-seeking behavior, and patient preference. Uptake of preventative health measures are low in south Asian women in the UK (10). Patient preference and health literacy level contribute to race-ethnicity differences, exacerbated by language barriers between patient and physician (11).
Predominant use of transdermal estrogen underlies the lack of a significant associations between HRT use and glycated hemoglobin and lipid profiles (12,13).
To take this project forward, expansion to a larger database would be valuable. Furthermore, with increasingly diverse populations, health literacy challenges are growing, especially for BAME groups (11). To address these difficulties, firstly, using various communication techniques with patients, such as pictures, and performance scorecards will help evaluate verbal and written communication. Increasing awareness and utilization of public education initiatives could also address inequities. The Agency for Healthcare Research and Quality "Questions Are the Answer" could be used to help guide clinicians on effective patient communication (14).

Conclusion

Our analysis suggests menopausal women with diabetes are less likely to receive HRT than their non-diabetic counterparts. Prescription of HRT to menopausal diabetic women may be an important intervention for cardiovascular risk factors, and these findings may have implications for focusing the indications of drug use, although confirmation of the expected cardiovascular benefits is needed. The present examination was conducted on a relatively small sample, and more long-term, interventional studies with a larger sample size are warranted.

Limitations

This analysis has several limitations. Firstly, collecting data via Cerner meant that it was only what clinicians have documented. We cannot account for missing data or transcribing errors. Analysis was confined to a single practice, limiting generalizability. Similarly, a survey is limited by the subjectivity of responses introducing recall bias. There was a lack for data availability on descriptive social variables. Missing variable were either coded as null or delete from our detected – a smaller, biased sample may have resulted. Adjusting for type of menopause would have been beneficial, as HRT is more common in hysterectomized women. Finally, the comparator group in our analysis were women with endocrinological diagnoses, therefore not representative of the general population, reducing external validity.

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Bickerstaff's Brainstem Encephalitis: A Diagnostic Challenge

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Acute Medicine, Russells Hall Hospital

Introduction

Bickerstaff's encephalitis is a rare entity with a prevalence of around 0.78/100000 persons/year and poses a potential diagnostic challenge to the physicians.
It was first reported by Bickerstaff and Cloake in 1951 when they presented three cases with ataxia, ophthalmoplegia and drowsiness. From the literature BBE seems more prevalent in Asians followed by Latin Americans.
We present a case of a 73-yearold European female who was diagnosed with BBE after a detailed workup.

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Case Presentation

A 73-year-old female patient was brought to the hospital with acute confusion and suspected right sided arm weakness. She did not respond properly to the questions and took long pauses to process the questions.
A detailed history revealed that the patient was a resident of Manchester and she called her daughter two days ago who lived in Birmingham. The patient told her daughter that she had visitors to stay and later on she told her that it was just a "vivid dream" and no actual visitors. On the next day, she developed right hand numbness which persisted during the hospital admission. A day later, the patient took a train from Manchester to Birmingham to stay with her daughter. She became gradually confused, had slurred speech, and difficulty in finding the words. She had a tonic clonic seizure in the ED. Neurology team examined the patient to have constricted pupils, very hypotonic, areflexic and bilateral extensor plantars. A lumbar puncture and an autoimmune profile were negative.
Patient had a tonic clonic seizure and afterwards gradually deteriorated, with pinpoint pupils only slightly reactive to light, with downward gaze in both eyes. She was intubated and was managed in ITU. In view of the labs, radiological investigations and the presence of ophthalmoplegia, disturbed consciousness, positive Babinski's sign and abnormal pupils a diagnosis of Bickerstaff's brainstem encephalopathy was made. She was given two courses of IVIG and she recovered well after the second course.

Discussion

As the Bickerstaff's brainstem encephalitis is clinically rare, there are no large scale studies.
Odaka et al studied 62 cases and explained the characteristics and the potential association with Guillain-Barre Syndrome. They found that apart from ophthalmoplegia and ataxia, the most prevalent symptoms were disturbed consciousness (74%), facial diplegia(45%), positive Babinski's sign (40%) and pupillary abnormalities and bulbar palsy (34%). Our patient had most of the features including altered consciousness, positive Babinski's sign and abnormal pupils.
In terms of bloods tests, 66% of the patients have anti-GQ1b IgG antibody positive, which was negative in our patient.
Imaging like MRI usually shows posterior fossa abnormalities in around one third of the patients, however, in our patient, all the imaging including the MRI head were normal.
No RCTs conducted due to rarity and good prognosis with out treatment.
Treatment typically is focused on steroids and plasma exchange, we managed our patient with IVIG and she responded well to the treatment.
Plasmapheresis is also another possible treatment option.
Recovery usually takes several weeks to months, our patient recovered after 4-6 weeks.

Immunotherapy Related Acute Kidney Injury

Dr Soe Naing, Royal United Hospital,Bath

Introduction

Immunotherapy has become a crucial cancer treatment, showing effectiveness in various types of cancer. However, as the use of immunotherapy increases, so does the occurrence of related side effects. The incidence of immunotherapy-associated acute kidney injury (AKI) is 2.2% (1) , making it a relatively infrequent complication. On the other hand, AKI is a common presentation in acute medical settings, highlighting the importance of promptly recognizing and managing immunotherapy-related AKI in patients receiving this treatment.

Case summary

Initial Assessment

- **Background**:46years old , male , left renal cell carcinoma with left nephrectomy
- **Current anti-cancer treatment**: adjuvant Pembrolizumab
- **Presenting complaints**: generally unwell, urinary frequency
- No recent initiation of new medications, no recent exposure to nephrotoxins
- **Clinical examination**: afebrile, and unremarkable
- **Laboratory findings**:
  - serum creatinine elevated to 361 mcmol/l from a baseline of 131 mcmol/l – AKI stage 3 (2)
  - elevated CRP -138 mg/l
- **Initial Treatment:** Antibiotics and intravenous fluid therapy initiated for possible infection

Further investigations and management

- **Further investigations;**
  - Urine microscopy showed sterile pyuria
  - Renal ultrasound - a normal right kidney without obstruction
  - Blood and urine cultures –no bacterial growth
  - Urine albumin creatinine ratio:no nephrotic range proteinuria
  - Influenza and COVID-19 screen – negative
  - Chest X-ray -no pulmonary pathology
  - **Worsening Kidney Function:** Despite initial treatment, creatinine level rose to 370 mcmol/l
- **Concerns:** Raised suspicion of immunotherapy-related nephritis
- **Management Decision:** Initiation of intravenous Methylprednisolone 1mg/kg for suspected immunotherapy-related nephritis after discussion with the oncology team

Outcome

- **Response to steroid**:
  - Progressive improvement in renal function
  - Serum creatinine decreased to 227 mcmol/l - AKI stage 1 after the third dose of methylprednisolone
  - Transitioned to oral steroid therapy and initiated gradual dose tapering
- **Follow-up review**:
  - Continued improvement in renal function
  - Creatinine level stabilized around 150 mcmol/l

Discussion

It is challenging to differentiate between immunotherapy and other causes of AKI in the acute setting. It is very important to consider immunotherapy-related AKI, particularly when renal function is worsening despite appropriate initial management and after excluding obstructive pathology.

Conclusion

This case highlights the importance of considering immunotherapy-related nephritis in the differential diagnosis of AKI for every patient who has undergone immunotherapy. It is also important to seek early opinion from the oncology team for any cases suspected of immunotherapy-related complications.

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Bromley Adults Hospital At Home: A Collaborative Approach to Care in a Patient with Complex Needs

Dr Sovrila Soobroyen I Lead GP for One Bromley H@H, Dr Lynette Linkson I Consultant Respiratory Physician and Clinical Director for Bromley H@H, Lorna Redpath I Service Lead Bromley H@H

Introduction

The Hospital at Home (H@H) service delivers **hospital-level care** to patients in their own homes, aiming to provide **holistic, person-centred** assessment aligned with the NHS's vision of **integrated care** in the community. We present a case highlighting the effectiveness of **collaboration** among healthcare services in managing a patient with advanced cholangiocarcinoma.

Case Discussion

A 58 year old male patient with stage 4 cholangiocarcinoma experienced **recurrent admissions** due to ongoing intra-abdominal sepsis. Imaging revealed a fluid filled structure between the duodenum and hilum of the liver and free fluid in the pelvis which was not amenable to surgical intervention. **Admissions were prolonged** and associated with **increasing frailty** as well as separation from his family, which caused rising **psychological distress**.

Treatment

He opted for further assessment and treatment with the H@H team to avoid repeated hospitalisations.

- MDT approach
- Tailored treatment plan : prioritising improving his quality of life and experience
- Daily clinical assessment, administration of intravenous antibiotics and blood monitoring
- Weekly MDT meeting
- Parallel planning with palliative care

Benefits

- Goal concordance
- Aligning interventions with the evolving needs and values of the patient
- Emotional support for caregivers
- Proactive management strategies with remote monitoring technology
- No further hospitalisations and alleviated the need for the patient to explain their story to yet another group of clinicians

Conclusion

This alternative model of care embodies a **collaborative approach**, ensuring **seamless transitions** for patients with complex needs and fostering a **less fragmented care experience**. By prioritising patient comfort and addressing reversible causes of deterioration, this **person-centred** approach has led to **improved patient outcomes**. Furthermore, it supports the creation of a **more sustainable NHS.**

ONE BROMLEY

WORKING TOGETHER TO IMPROVE HEALTH AND CARE

A rare case of TEN-like Acute cutaneous Lupus Erythematosus

T Mehmood, K Elaidy, Dr Olabambo Ogunbambi

NHS Hull University Teaching Hospitals NHS Trust

Introduction:

Lupus erythematosus is an autoimmune disease that presents with a variety of clinical manifestations ranging from cutaneous to multi-organ systemic involvement. TEN-like ACLE is a rare, hyperacute and life-threatening form of cutaneous lupus erythematosus seen in patients with SLE. These cutaneous lesions appear in a photo-distributive pattern as tense, vesiculobullous eruptions eventually causing extensive epidermal necrosis. There are no definitive features, but a combination of recent SLE exacerbation, photo-distribution, presence of annular lesions, and absent or mild focal erosive mucosal involvement may favour TEN-like ACLE over SJS/TEN clinically.(2)

Case report:

We report a 32-year-old African female with a recent new diagnosis of SLE along with class II lupus nephritis, managed on hydroxychloroquine and a tapering course of Prednisolone.

She re-presented 5 weeks later (after confirmed diagnosis of SLE) with high grade pyrexia and a severe generalised rash. The rash started as erythematous macules on sun exposed areas, with rapid spread from the arms to the face, neck, legs and eventually the trunk (Fig 1). Along with the rash, patient also developed high grade pyrexia and systemic symptoms of Lupus.

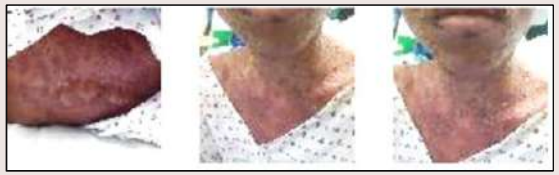

Fig 1. Images taken on day of hospital admission- vesicular rash on trunk

Over the next few days, the rash evolved into vesicles and large tense bullae; some of which were haemorrhagic and intensely painful. There were no mucosal lesions. She also had generalized pain, increased hair loss, fever and malaise. Initial investigations showed marginally elevated CRP and procalcitonin levels, normal baseline renal function tests, anaemia, lymphopenia and low complement levels. The initial septic screen was negative.

Differentials included Bullous SLE, TEN-like ACLE, SJS and other bullous drug eruptions. A drug reaction due to Hydroxychloroquine was considered. However, given a suspected concomitant acute lupus flare, TEN-like ACLE was thought more likely. Skin biopsy demonstrated histological features consistent with TEN.

She was commenced on broad spectrum antibiotics empirically, followed by high-dose intravenous methylprednisolone and planned 1st cycle of Rituximab. Following these therapies, there was a rapid defervescence and marked reduction in skin inflammation (Fig 2).

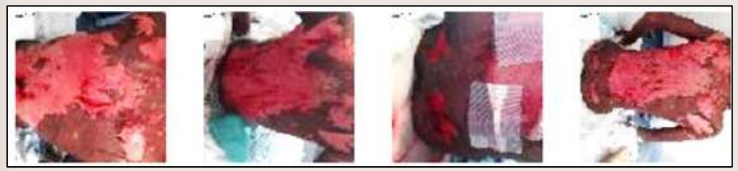

Fig 2. Images taken on day 3 post high dose Immunosuppression

The bullous rash improved within days. However, she developed severe denudation of the skin with an epidermal loss of more than 85% TBSA. She was therefore transferred to the regional burns unit. She required superficial debridement and dressing changes under a general anaesthetic. She also required pre-emptive intubation. Her hospital stay was complicated by skin infections and bacteraemia caused by multi-drug resistant organisms, which required further treatment with broad-spectrum antimicrobials.

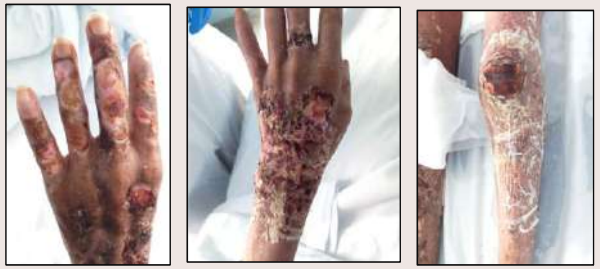

Fig 3a, 3b, 3c- Images taken 4 weeks post Immunosuppression

Our patient responded well to robust immunosuppressive therapy and subsequently made good recovery. Her skin has well healed, albeit with some scarring, and her condition has stabilised (Fig 4). She currently is stable on low dose Prednisolone and Mycophenolate mofetil; and has had no further hospital admissions to date (12 months).

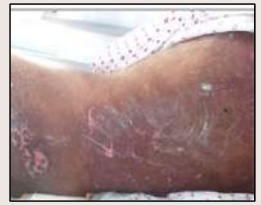

Fig 4. Image of trunk 6 weeks post immunosuppression

Discussion:

- TEN-like ACLE is rare, and there is often uncertainty regarding the diagnosis and therapy. The diagnosis of TEN-like ACLE is often made retrospectively after correlation between different clinical, serologic, and histopathological data.
- The limited evidence base pertaining to such presentations of the disease adds to the dilemma as well.
- In lupus patients presenting with generalized blistering rash, TEN-like ACLE and bullous SLE must remain a top differential as timely diagnosis and early aggressive therapy is paramount in such cases.
- Studies show that treatment with B-cell depletion therapies and high dose steroids have a positive outcome in management of severe acute cutaneous SLE- Data from our case also supports that Rituximab and high dose immunosuppression are favourable options in recalcitrant disease. (4)

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A CASE SERIES ON MELIOIDOSIS

BY DR. PUSAPATI UMA SIRISHA (PRESENTING AUTHOR) , DR.S PADMA MUGAMBIGAI DEVI , DR. VIJAYALAKSHMI BALAKRISHNAN

BACKGROUND

- Melioidosis is caused by the bacteria Burkholderia pseudomallei. It has a wide range of symptoms often mimicking other infections leading to its misdiagnosis or under diagnosis.
- We hereby aim to highlight some of the atypical presentations which might cause delay in diagnosis and pose a challenge for the treating physician and distress to the patient.

METHODS

We present 10 patients of Melioidosis admitted over a wide range of specialties with single or multiple system involvement. The risk factors, provisional diagnosis and all the other parameters noted are summarized in the table below

PATIENT NO.	PRESENTING COMPLAINTS	IMPORTANT CLINICAL SIGNS	IMAGES	INVESTIGATIONS	PROVISIONAL DIAGNOSIS	MELIOID DETECTED SITE	TREATMENT
1	COUGH ,BREATHING DIFFICULTY, VOMITING	RS- CRACKLES,GI- ICTERUS,ABDOMINAL DISTENSION AND TENDERNESS		CT CHEST : BRONCHOPNEUMONIA USG ABDOMEN - B/L PNFS	SEPSIS+MODS	BLOOD CULTURE	IV CEFTAZIDIME + ORAL COTRIMOXAZOLE
2	WEIGHT LOSS AND ABDOMINAL PAIN	TC- 20K , HYPOALBUMINEMIA, DERANGED INR		CT ABDOMEN - MULTIPLE NON- ENHANCING LESIONS,SPLENIC VEIN THROMBOSIS	SEPSIS / ABDOMINAL TB	BLOOD CULTURE	IV CEFTAZIDIME + ORAL COTRIMOXAZOLE
3	HIP PAIN,WALKING DIFFICULTY	NIL		MRI SPINE: L3-L4 HYPERINTENSE LESION WITH INFECTIVE EPIDURAL COLLECTION	SPINAL ABSCESS	SPINAL ABSCESS PUS CULTURE	IV CEFTAZIDIME + ORAL COTRIMOXAZOLE
4	SEIZURE, LOC	NIL		MRI BRAIN- FRONTAL ABSCESS	BRAIN ABSCESS	BRAIN ABSCESS PUS CULTURE	IV CEFTAZIDIME + ORAL COTRIMOXAZOLE
5	WEIGHT LOSS , APPETITE LOSS	PALLOR,CLUBBING, SPLENOMEGALY		CT ABDOMEN- HYPODENSE ENHANCING SPLENIC LESIONS	SPLENIC ABSCESS	SPLENIC PUS CULTURE	IV CEFTAZIDIME + ORAL COTRIMOXAZOLE
6	LOC/UNRESPONSIVE	GCS-13/15 DELAYED MOTOR RESPONSE		CT CHEST - B/L GGO'S AND CONSOLIDATION	HYPOGLYCEMIC SEIZURE/SEIZURE FOR EVALUATION	BLOOD CULTURE	IV CEFTAZIDIME + ORAL COTRIMOXAZOLE
7	INTERMITTENT FEVER AND CONSTIPATION	NIL		CT CHEST- L.LL LESION,L.PLEURAL EFFUSION	CONSTIPATION FOR EVALUATION	PLEURAL FLUID CULTURE	IV CEFTAZIDIME + ORAL COTRIMOXAZOLE
8	HEADACHE,FACIAL DEVIATION,SLURRING OF SPEECH	NIL		MRI BRAIN- SDH+ ABSCESS	SUB DURAL HAEMATOMA	BRAIN ABSCESS PUS CULTURE	IV CEFTAZIDIME + ORAL COTRIMOXAZOLE
9	BACK PAIN AND INTERMITTENT FEVER	LL BLISTERS,PEDAL EDEMA,CACHEXIA , DEHYDRATION		CT ABDOMEN- RUPTURED SACCULAR ANEURYSM AND HAEMATOMA	RUPTURED SACCULAR ANEURYSM	CULTURE OF BLISTERS	IV CEFTAZIDIME + ORAL COTRIMOXAZOLE
10	AGE,VOMITING, WEIGHT LOSS	NIL		CT CHEST- L.LL GRANULOMAS,CT ABDOMEN- MULTIPLE GRANULOMAS	DISSEMINATED TB	SPLENIC PUS CULTURE	IV CEFTAZIDIME + ORAL COTRIMOXAZOLE

RESULTS

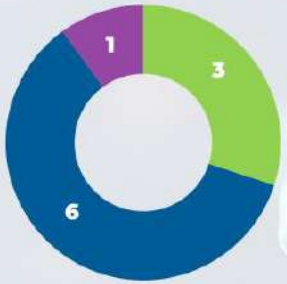
MELIOID-SITE OF ISOLATION

- BLOOD CULTURE
- SPLENIC PUS CULTURE
- BRAIN ABSCESS CULTURE
- PLEURAL FLUID CULTURE
- WOUND CULTURE

PRESENTING SYMPTOMS

- PULMONARY SYMPTOMS
- GASTRO INTESTINAL SYMPTOMS
- NEUROLOGICAL SYMPTOMS

CO MORBID CONDITIONS



- NIL CO MORBIDS
- DIABETES
- HYPERTENSION

CONCLUSION

- All the 10 patients were successfully treated with clinical and laboratory evidence showing improvement.
- With a vast array of possible presentations , our aim is to highlight them, create awareness among the treating doctors and all the internists to diagnose and treat melioid .

SYNCOPE IN A PATIENT WITH PACEMAKER - A RHEUMATOLOGICAL CAUSE

BY DR.PUSAPATI UMA SIRISHA ,DR.RANIYA PALLIYEDATH AND DR.SANJAI PATTU VALAPPIL

- The infiltrative cardiomyopathy known as cardiac sarcoidosis is caused by granulomatous inflammation of the heart.
- The most typical clinical manifestation is new onset atrioventricular (AV) block, although it can also manifest as life threatening ventricular arrhythmias and sudden cardiac death.

CASE

A 70-year-old female with history of single chamber permanent pacemaker implanted for symptomatic intermittent complete AV block 8 months ago, was admitted with complaints of syncope and shortness of breath.

INITIAL INVESTIGATIONS

Previous coronary angiogram &echocardiography showed normal epicardial coronaries and left ventricular systolic function and ejection fraction **(EF)-60%.**
Repeat ECG : Ventricular tachycardia (VT) , **Repeat ECHO – low EF – 30 %**, with **basal septal scar.**
The VT was promptly reverted with emergency synchronised DC cardioversion . She continued to have breakthrough episodes of VT despite intravenous amiodarone and lignocaine infusion . Serum potassium and magnesium were within the normal range

DIFFERENTIAL DIAGNOSIS

AV block with rapid progression of heart failure with severe left ventricular dysfunction alongside evidence of dense basal septal scar and runs of automatic VT-there was a high suspicion of **infiltrative cardiomyopathy.**

FURTHER INVESTIGATION

She was subjected to **full body PET and cardiac SPECT** and was diagnosed as Cardiac Sarcoid.

TREATMENT

Steroids and immunosuppressants

OUTCOME

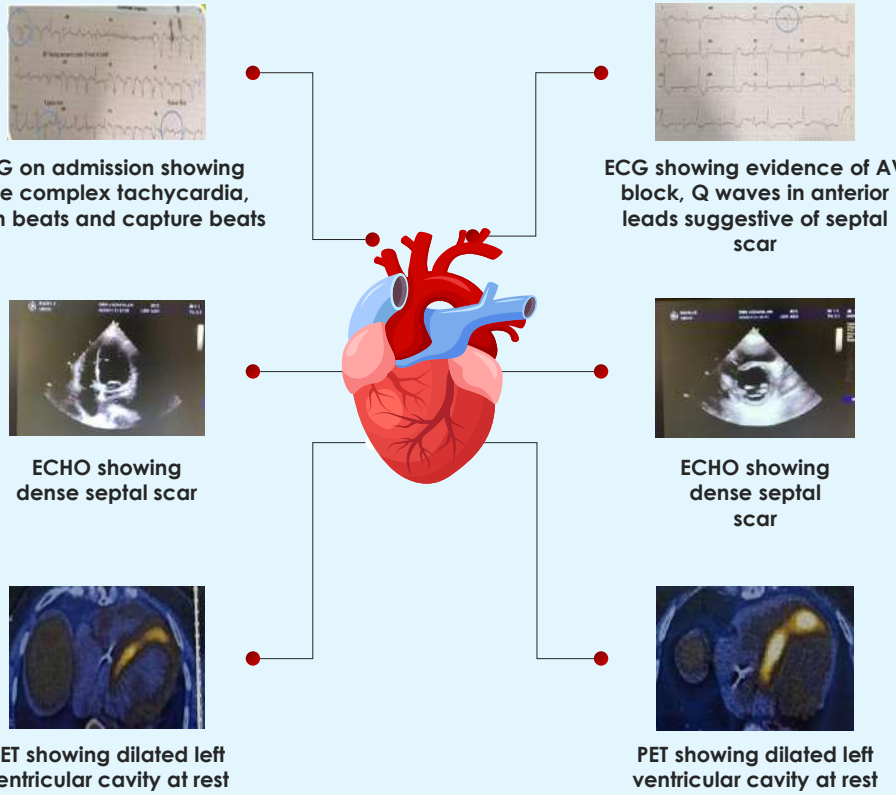
Her stay in CCU was **uneventful** and she became symptomatically better. Upgradation of the pacemaker to a Cardiac resynchronization therapy with defibrillator (CRT-D), couldn't be done owing to familial financial constraints.

DISCHARGE ADVISE

Medical therapy for heart failure , maintenance dose of Sotalol 80 mg twice a day, Mexiletine 150 mg twice a day and steroids.

FOLLOW UP

Patient improved symptomatically with no breakthrough episodes of VT, **repeat PET after 3 months revealed reduction in inflammatory activity.**
After a duration of 8 months, the subject's death was reported due to in hospital cardiac arrest when she was evaluated for a hip fracture, probably due to sudden VT or VF.



CLUES FOR CARDIAC SARCOIDOSIS

- Patients presenting with high degree AV block.
- Young monomorphic VT/automatic drug-resistant VT arising from the basal septum or left ventricle lateral wall.
- Pleomorphic PVCs (PVC's having variable morphology or variable axis in the ECG or 24-hour Holter)
- A young patient with any permutation or combination of the above presentations

CONCLUSION

A strong index of suspicion is necessary for diagnosing CS, especially in individuals with systemic sarcoidosis. Identifying these people will encourage early initiation of treatment which might be life saving. Even without pulmonary sarcoidosis signs, CS should be taken into consideration in patients with heart failure, new onset AV block, and sudden syncope. A multidisciplinary approach is crucial for navigating complexities, underscoring the need for early recognition, for understanding pathophysiology and optimizing treatment.

A Cross-sectional Study Of Knowledge, Perception And Acceptance Of Artificial Intelligence In Healthcare Among Medical Graduates In Bengaluru

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INTRODUCTION

- Artificial Intelligence (AI) refers to the utilization of computers and sophisticated technologies to gather and analyze data.
- Previous studies show that medical professionals in developing countries have limited knowledge about the use of AI in healthcare.[1]
- However, with recent advancements, newer studies are needed to assess the current scenario.
- Understanding the acceptance of AI helps to assess the willingness of young doctors in integrating AI into their medical practice.

OBJECTIVE

The current study aims to assess the knowledge, perception, and acceptance of AI in healthcare among recent medical graduates.

Characteristic	Number	Percentage (%)
Gender		
Male	108	42.52
Female	145	57.09
Prefer not to say	1	0.39
Academic background in computer science		
Yes	154	60.63
No	100	39.37
Attended or viewed any talks or lectures on AI		
Yes	98	38.58
No	156	61.42

Table 1: Demographic and background information

MATERIALS AND METHODS

Study design: Cross-sectional study

Sample size: 227

Study population: Medical interns, junior residents, senior residents, and fellowship candidates.

Assessment tool: A pre-validated questionnaire by Mehta et. al. was used.[2]

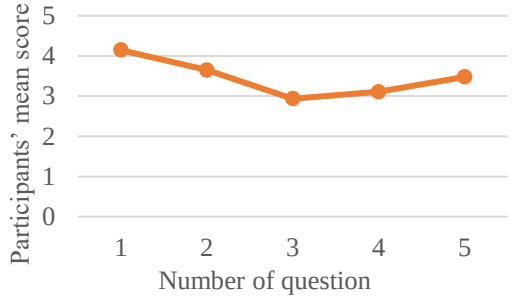
Data collection: The questionnaire was shared across various social media platforms to our study population.

Statistical analysis: Descriptive statistics were applied to measure the population's knowledge, perception, and acceptance of AI in healthcare.

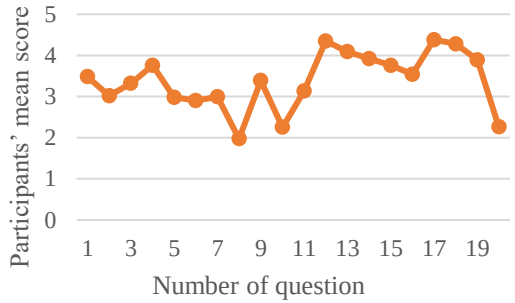
Ethical clearance was obtained from the Ethics Committee of our institution (BMCRI/EC/03/23-24)

RESULTS AND DISCUSSION

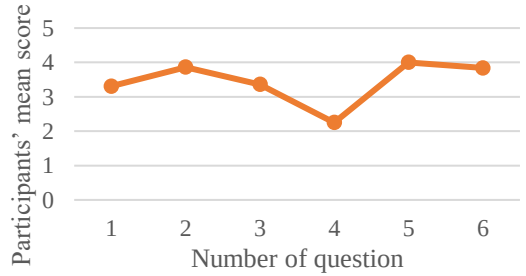
- A total of **254** interested candidates (22% response rate) responded to the survey.
- There is a noticeable improvement in knowledge and perception regarding AI in healthcare, which is consistent with recent studies.[3]
- **53%** of the participants indicated that AI has already or will impact their choice of specialty selection.
- Moreover, **66%** of them feel that current medical education inadequately prepares them to work alongside AI, while a striking **81%** of them believe in incorporating AI competencies into medical training.



Graph 1: Mean scores of individual questions assessing participants' **knowledge**



Graph 2: Mean scores of individual questions assessing participants' **perception**



Graph 3: Mean scores of individual questions assessing participants' **acceptance**

CONCLUSIONS

- Our findings suggest a growing interest in learning about AI and integrating it into our daily work routines among medical graduates.
- Medical graduates are prepared to receive training on AI but the current curriculum lacks adequate focus on this domain.
- Hence, incorporating AI competencies into undergraduate medical training is essential in preparing students for the future of healthcare.

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Managing anticholinergic burden in hospitalised older adults - should our attention be better directed?

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Introduction

Medications with anticholinergic properties are commonly prescribed to older adults.

'Anticholinergic burden' describes the cumulative negative effect of being on multiple medications with anticholinergic properties. The 'anticholinergic cognitive burden' (ACB) scale is most well-known and validated for clinical practice, assigning medications with a score of 1 (possible anticholinergic effect) to 3 (definite).[1]

Management of polypharmacy in older people is sometimes linked with the targeting of such medications. The aim of this work was to evaluate the prevalence of delirium across the medical wards at our tertiary hospital along with anticholinergic burden.

Method

Medical patients above the age of 75 were included. End-of-life patients were excluded. 222 patients were recorded across 14 medical wards.

Each patient had their ACB score calculated along with recording of whether delirium featured during their admission according to either a positive 4AT or documentation to the effect of a diagnosis. Data was also collected on prescribed medications according to ACB score across all patients.

Discussion

44 patients had delirium out of 222. We observed a 19.8% prevalence of delirium amongst our cohort of hospitalised older adults in keeping with commonly cited prevalence.

The main source of anticholinergic burden came from the use of ACB score 1 medications (*figure 1*) of which there is often little alternative - furosemide (most used = 35 patients), famotidine (second = 25) and prednisolone (third = 18).

While associations should be drawn loosely given the non-adjusted nature, we found no difference in median ACB score between the two groups of those with and without delirium – and both were 0 (*figure 2*). Moreover, within those with delirium, there was only a small difference in the number of patients between those with an ACB 0 (19) and >1 (25). Within this latter group, most of the patients had generally lower ACB scores (ACB 1 = 9 patients, 2 = 8, 3 = 5, 4 = 3).

Medications with individual ACB score of 3 are associated with increased long-term risks of cognitive decline and falls in older people, particularly amitriptyline and oxybutynin[2]. However, the impact of ACB score 1 medications and their cumulative use in producing the same risks are less clear.[2] The consensus appears similarly mixed as to whether higher total ACB scores in the hospital setting leads to an increased risk of delirium, as noted by Rawle et al[3] in their prospective cohort study of 784 older patients. However, Pasina et al[4] conversely found in their retrospective study of 477 older patients that an ACB score of 3 and higher had a 3-6x increased risk of delirium than those with 0.

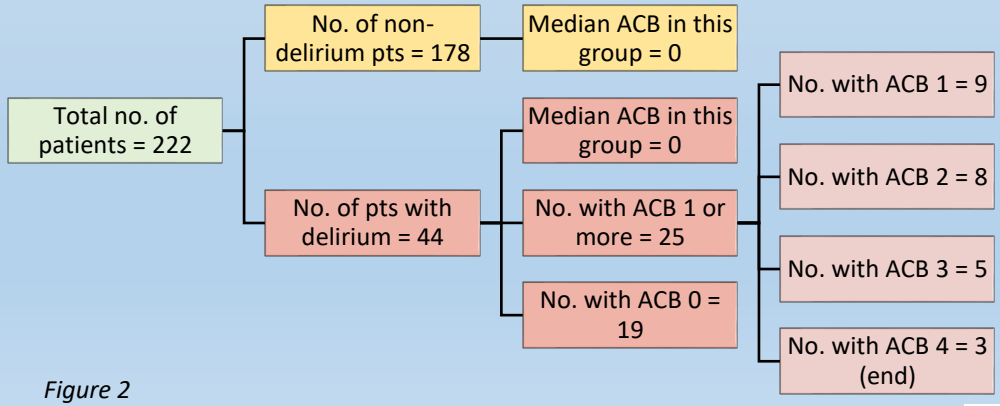
Key Points

- The main source of anticholinergic burden came from the use of ACB score 1 medications. These are often essential with non-ACB alternative. The literature is uncertain on the negative individual and cumulative use of ACB 1 medications.
- We saw no difference in the median ACB score between the two groups of patients with and without delirium (score = 0 in both). Patients with delirium also had generally lower ACB scores.
- This work suggests that the management of polypharmacy in hospitalised older people should focus primarily on ACB 3 medications and other clinically validated tools such as STOPP criteria.

Most used ACB medications –

- ACB 1
  1. Furosemide (n = 35)
  2. Famotidine (n = 25)
  3. Mirtazapine & Prednisolone (n = 18 each)
- ACB 2
  1. Carbamazepine (n = 2)
  2. Loperamide & Theophylline (n = 1 each)
- ACB 3
  1. Amitriptyline (n = 11)
  2. Solifenacin (n = 4)
  3. Oxybutynin (n = 1)

Figure 1



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CHEST PAIN IN YOUNG WOMEN: A CASE REVIEW ON SCAD

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INTRODUCTION

Spontaneous Coronary Artery Dissection (SCAD) is a rare etiology of acute coronary syndrome (ACS), characterized by intramural hematoma formation in coronary arteries unrelated to atherosclerosis or trauma.

CASE PRESENTATION

A middle-aged woman presented with worsening chest pain for 2 months with high stress levels.

Past medical history
> hypercholesterolaemia
> non-fatty alcoholic liver disease
> smoker

ECG: Sinus Rhythm, T wave inversion, saddle ST segments

Bloods
> **Troponin** (ng/L) 153, 169, 213
> **Cholesterol** 6.8 mmol/L
> **Triglycerides** 3.48 mmol/L
> **Low density lipoprotein cholesterol** 6.0 mmol/L

Echocardiography: Moderate left ventricular dysfunction, with lateral, inferior, and posterior wall motion abnormalities. Right ventricle and valves were normal.

Coronary angiography (Fig 1) revealed left main stem/left anterior descending artery stenosis with SCAD. This was confirmed by subsequent **CT coronary angiography** (Fig 2).

FIGURE 1- Coronary Angiography

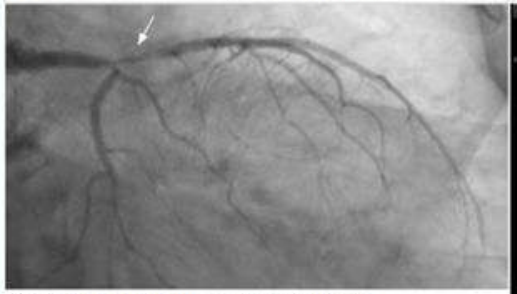
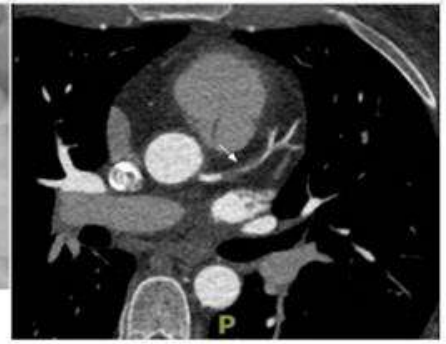


FIGURE 2- CT Coronary Angiography



She was managed conservatively.

Follow-up cardiac MRI at 6 months post-SCAD was reassuring, showing preserved myocardial thickness and Left Anterior Descending territory scarring with no significant ischaemic changes.

DISCUSSION

- SCAD symptoms are similar to acute coronary syndrome secondary to coronary artery disease.
- Its reliance on coronary angiography causes delayed diagnosis in non-PCI centres.
- Conservative management and cardiac rehabilitation is recommended for uncomplicated cases.

beatSCAD

- Research from Canada and the United Kingdom have led to the establishment of specialized SCAD clinics to manage this rare condition.
- Hypertension increases the risk of recurrent SCAD.

- Imaging is recommended to identify extra-coronary aneurysms or dissections linked to underlying arteriopathies, such as Fibromuscular Dysplasia (FMD).
- FMD affects medium-sized arteries, seen in females aged between 20 and 60 years. The cause of FMD is unknown, and diagnosis is made by angiography.

- During pregnancy, high progesterone levels can result in weakening of the vessel wall.
- Increased cardiac output and circulatory volume, along with the acute haemodynamic stress of childbirth can lead to pregnancy-related SCAD.

LEARNING POINTS

- ❑ SCAD is a significant cause of ACS in young women without traditional risk factors.
- ❑ Its pathophysiology and treatment differ from ACS caused by plaque rupture or erosion.
- ❑ The clinical challenges in the diagnosis and management of SCAD emphasizes the need for a heightened suspicion of SCAD in young women presenting with chest pain and raised troponin.
- ❑ Conservative management is preferred for uncomplicated cases considering the spontaneous healing of most lesions.
- ❑ Revascularization is indicated where complete occlusion of proximal coronary artery is encountered.
- ❑ Despite favourable long-term outcomes, recurrent SCAD events remain significant.
- ❑ SCAD often coexists with FMD, emphasizing the importance of screening additional arterial beds.

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