

A CLINICAL AUDIT ON THE MANAGEMENT OF INPATIENT HYPERGLYCEMIA IN DIABETIC PATIENTS

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Introduction

Patients with diabetes are three times more prone to hospitalization and are associated with an increased risk of complications and mortality. Patient outcomes significantly improve with the management of hyperglycemia

Aims and Objectives

To evaluate the compliance of inpatient management of hyperglycemia in diabetes patients at Scarborough General Hospital with the York Trust Hospital (YTH) guidelines and to know the extent of adherence to Diabetes Specialist Nurse's (DSN) advice. The audit standards were based on the YTH protocols for management of inpatient hyperglycemia, YTH protocol for blood ketone testing for diabetic adults and the YTH Best Practice guidance for the use of STAT doses of Rapid Acting Insulin for the treatment of hyperglycemia in Adult patients with Diabetes.

Methodology

A prospective study was done from mid-August to mid-September 2020 and information was collected from electronic health records and patient notes of diabetic patients with hyperglycemia who had an inpatient stay of three days or more ($n=30$). Data were recorded and analysed in Microsoft excel.

Results

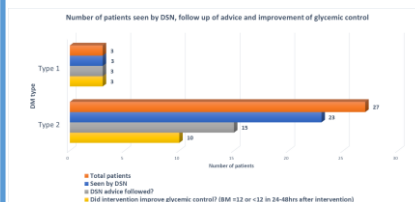
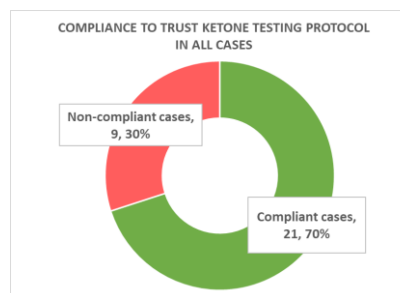
Type 1 Diabetes median age - 30
 Type 2 Diabetes median age -78
 Blood glucose after admission > 16 mmol/L (70 % of the type 1 patients and in 52 % of type 2 diabetics).
 Blood Ketones testing: All the type 1 patients and 22 % of type 2 patients.
 Blood ketone measured according to the YTH protocol:
 70% of type 2 diabetics and 67% of type 1 diabetics
 In type 2 diabetics who needed blood ketone monitoring but were not tested, half of them were missed and in the other half it was not in line with YTH protocol .

Overall compliance to the YTH ketone testing protocol - 70 %.

In type 2 diabetics, in 15 percent the oral hypoglycaemic drugs were increased, in 45 percent insulin was increased by 10 % and in 26 percent a stat dose of rapid acting insulin was given.

But in almost 40 % of those treated with a stat dose of insulin blood glucose was not checked after two hours.

The DSN advice was followed in 70 percent of the cases.



Conclusions

Even though the compliance to the YTH protocol in blood ketone testing and the DSN advice were good, failure to test ketones in type 2 diabetics who were unwell and who had a blood glucose above 16 mmol/L could have serious consequences. Blood glucose is to be checked after one or two hours depending on the type of stat dose of insulin and leaving blood glucose unchecked could result in fatal complications.

Audit Criteria	Compliant Cases (number, %)
Compliance to guidelines of ketone testing in in-patients with hyperglycemia	21, 70%
Compliance to protocol on use of stat doses and glucose check	4, 57%
Compliance to DSN's advice	18, 69%