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An Audit of a New Diabetic Management Regime Suitable for Day and Short Stay Surgery

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INTRODUCTION: Last year our trust developed new guidelines for improving the management of perioperative blood glucose control in adult diabetic (type 1 and 2) patients presenting for elective and day case surgery. The aim was to allow an increasing number of diabetics (with HbA_{1c}<8.5, NBM <12 hr) to attend for surgery on the same day rather than be admitted the day before to control their diabetes. This would minimise inconvenience to the patient without compromising their control and save bed days for the hospital. The guidelines were based on the recent consensus statement that Sliding Scale Insulin Infusion (SSI) regime was a retroactive form of insulin replacement therapy associated with increased glycaemic excursions and should be used only for cases of NBM >12 hours or haemodynamic instability. As per the new protocol, self-management with oral hypoglycaemic agents (OHAs) was encouraged and simple algorithms for SC delivery of correction and basal doses of insulin were developed aiming to keep BMs between 5–15 mmol/L. Patients were to be scheduled first on the surgical lists. We decided to audit the efficacy of these new guidelines.

METHODS: All diabetic patients (Age >16 yrs, NBM <12 hr) presenting for elective surgery over 1 month period were identified and the date and time of admission, procedure and discharge were noted. HbA_{1c} and 2 hourly BMs were recorded.

Adherence to trust guidelines was investigated i.e., their suitability for management according to the new guidelines depending on their preoperative blood glucose control, type of surgery, NBM status and whether their perioperative blood glucose control was acceptable within range of 5–15 mmol/L.

RESULTS: 30 patients were audited, 5 were type 1 diabetics. 23 were admitted on the day of surgery. 20 did not have a SSI regime started and 18 of these who were managed with the new protocol did maintain their BMs between 5–15 mmol/L. The 2 patients (both type 2 diabetics on OHA) who had BMs >15 (first postoperative record) on the new protocol, were found to be 2nd and 3rd on the surgical list. There were 2 patients who were started on preop. SSI despite being NBM <12 hr and having HbA_{1c} <8.5, and these two recorded BMs <5 outside of the accepted lower limit. However once back on their usual OHAs their blood sugar control remained optimal and within the accepted normal range. One type 2 diabetic was started on SSI because he was 2nd on the list and expected to be NBM >12 hours. His BMs on SSI fluctuated between 4 and 20 mmol/L and stabilised only once he was back on his regular oral hypoglycaemic drugs. Only 8 patients were 1st on list and 8 patients were NBM >12 hr hence not suitable for the guidelines.

CONCLUSIONS: The new guideline did allow optimal blood glucose control without the use of SSI in the majority of patients having short stay surgery. It also enabled diabetic patients to be admitted on the day of their surgery reducing length of stay. Scheduling patients first on the operating list did not happen in over 50% of cases and may have contributed to the high blood sugar noted in 2 patients.