

Use of sliding-scale insulin in medical patients at Hamad General Hospital, Qatar – an audit-based study

Authors: Raza Akbar,^A Jessiya Parambil,^A Saleema Purayil,^A Mohammad Abutineh^A and Abdul Qader^A

Introduction

Poor control of diabetes mellitus (DM) in hospitalised patients is associated with worse clinical outcomes. Despite the lack of evidence of effectiveness of sliding-scale insulin (SSI), it remains a common practice in hospital settings.^{1,2}

The aim of this study was to evaluate current practice of SSI use in medical inpatients at Hamad General Hospital.

Materials and methods

Electronic medical records of 30 patients with diabetes admitted under medical care (June 2017) were examined retrospectively.

Results and discussion

- > The majority (63.3%) of patients were female, and elderly (>60; 53.3%).
- > The majority (70%) of patients had type-2 DM. The type of DM was not documented in the rest.
- > SSI was initiated on first day of hospital admission in almost all patients.
- > SSI was continued beyond 48 hours in almost 80% of patients.
- > The indication for initiation of SSI was not documented in almost all the patients.
- > Regular insulin was used in 23.3% of patients and insulin aspart in the rest.
- > Basal insulin was prescribed in only 53.3% of the patients. Of these, 68.75% were already on home basal insulin, either with oral diabetic agents or with bolus insulin.
- > Almost a quarter (23.3%) of patients had blood glucose readings of <5 mmol/L. Of these, 28.6% had symptomatic hypoglycaemia.
- > Almost a third (30%) of the patients had high blood glucose readings (>20 mmol/L).
- > 58.6% of patients were discharged on their previous home treatment.
- > 24-hr insulin requirement was calculated only in 10% of patients.

Conclusions

- > There is variable glycaemic control with the use of SSI.
- > Hypoglycaemia and hyperglycaemia are common problems with SSI.
- > The accurate documentation of indication for SSI, and equivalent dose conversion, is still lacking.
- > SSI is used well beyond the maximum suggested duration of 48 hrs.
- > We aim to implement necessary changes and plan to re-audit to assess these changes. ■

Conflicts of interest

None declared.

References

- 1 Lee YY, Lin YM, Leu WJ *et al.* Sliding-scale insulin used for blood glucose control: a meta-analysis of randomized controlled trials. *Metabolism* 2015;64:118–392.
- 2 Dickerson LM, Ye X, Sack J, Hueston WJ. Glycemic control in medical inpatients with type 2 diabetes mellitus receiving sliding scale insulin regimens versus routine diabetes medications: a multi-center randomized controlled trial. *Ann Fam Med* 2003;1:29–35.

Authors: ^AHamad Medical Corporation, Doha, Qatar