An Audit of Hypoglycaemia Management in Adult Inpatients with Diabetes

Presented by: Brett Fenton, NUM Diabetes Services

Prepared with: Julie Droguett, CNS 2 Diabetes Services
Background and Rationale

Gosford and Wyong Hospital combined have approximately 800 beds

Hypoglycaemia is defined BGL <4.0 mmol/L

For each day with hypoglycaemia, patients’ length of stay (LOS) is increased by 2.5 days¹

Approximately 23% of inpatients with diabetes experience hypoglycaemia at least once during their stay²
Aim and Objective

Several hypoglycaemia incidents prompted the need to investigate:

a) Frequency of hypoglycaemia events in the acute care setting

b) Does management match current evidence based guidelines.
Methodology

- Demographic: age, gender, diabetes type and duration
- Reason of admission and co-morbidities
- Medication (insulin and/or sulfonylureas)
- Number and severity of hypoglycaemia episodes
- Documentation on bed chart and progress notes
- Follow-up and ongoing management e.g. medication reviewed and adjusted?
- Was blood glucose level re-tested 15 minutes later?
- Treatment administered?
<table>
<thead>
<tr>
<th></th>
<th>MRN</th>
<th>bed no.</th>
<th>gender</th>
<th>age</th>
<th>medication</th>
<th>team</th>
<th>hypo</th>
<th>duration</th>
<th>BGL done</th>
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<tbody>
<tr>
<td>1</td>
<td>111</td>
<td>1m</td>
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<tr>
<td></td>
<td>Total patients</td>
<td>Patients with Diabetes</td>
<td>Patients Insulin/Sulfonylureas</td>
<td>Patients with Hypos</td>
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<td><strong>Total</strong></td>
<td>489</td>
<td>89</td>
<td>52</td>
<td>29 (56%)</td>
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<td><strong>Gender</strong></td>
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<td>M=230; F=255; Missing=4</td>
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<td>M=42; F=46;</td>
<td>M=27; F=25</td>
<td>M=16; F=13</td>
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<tr>
<td><strong>Age (years)</strong></td>
<td>69.9</td>
<td>71.5 +/- 14.9</td>
<td>70.5 +/- 15.2</td>
<td>72.7 +/- 14.7</td>
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<td>(Range: 37 – 90)</td>
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<td><strong>Av LOS (days)</strong></td>
<td>n/a</td>
<td>21.2 +/- 18.4</td>
<td>22.3 +/- 18.0</td>
<td>26.2 +/- 17.5</td>
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<td>(Range: 2 – 94)</td>
<td>(Range: 2 – 63)</td>
<td>(Range: 5 – 63)</td>
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<td><strong>Diabetes Duration (years)</strong></td>
<td>n/a</td>
<td>19.0 +/- 14.2</td>
<td>21.8 +/- 14.1</td>
<td>25.9 +/- 13.7</td>
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<td>(Range: 0.5 – 49)</td>
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<td>(Missing=68)</td>
<td>(Missing=35)</td>
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Results

- 205 hypoglycaemic episodes were documented among 29 patients.
- 14 episodes were from sulfonylureas alone
- 15 episodes were severe with a BGL <2.0 mmol/L
- Only 18/205 (9%) episodes were rechecked within 15 mins, (range 5 mins - >24hrs, avg 116 mins)
- 2/3 of documented treatment was incorrect
Results

- 69 (34%) episodes had no documented treatment
- Hypoglycaemia managed poorly for people with Insulin infusions
- Diabetes history poorly documented, 20% did not state diabetes type and 76% did not state duration
- 10% of all IIMS in our LHD for medications are related to insulin
Case Study: AH, T2 Diabetes

- Admitted with cellulitis, previous cardiac history, 2 medical wards during admission of 39 days
- Insulin was withheld on 10 occasions, 12 missed doses, 27 stat doses
- 33 hypoglycaemic episodes recorded, 12 did not receive any documented treatment, only 8/33 were retested within 15 minutes, 5 recorded under 2.0 mmol/L
- Insulin Infusion – tx not as procedure
Recommendations and Actions

- Review and promote Diabetes procedures
- Mandatory diabetes education for all Nurses
- Nurse Managers to promote documentation/treatment of hypos, & ensure Hypo kit on ward is checked daily
- Diabetes Educator for Gosford & Wyong Hospitals
- Diabetes Inpatient Working Party
- Clinical Directors Recommend: Medical assessment on admission and identify type of diabetes and risk of hypoglycaemia
HYPO KIT
Not if patient is unconscious or unable to swallow.
Conclusion

- The audit reveals that, in the majority of cases, procedures for hypoglycaemia management were not being followed. Staff knowledge regarding Hypoglycaemia management was poor.

- There is an increased awareness of Diabetes and a better understanding of the importance of Diabetes Educators.

- Plan to re-audit in 2016 – to evaluate the success of implementing recommendations.
References


