High Prevalence of Diabetes in Stroke Patients at BBH

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Background & Objectives

Diabetes Mellitus & Strokes

- Increased risks of both ischaemic and haemorrhagic strokes by at least 2-3 folds. (1-3)
- Previous studies reported a widely varying prevalence of known diabetes (8-20%) as well as potentially unrecognised diabetes (6-42%). (4)
- In 2010, INTERSTROKE study from 22 countries showed that the prevalence of diabetes in acute ischaemic strokes was 21%. (5)
- National Diabetes Service Scheme (NDSS) showed that general population in Ballarat has a higher prevalence of diabetes compared to Melbourne CBD. (5.4% vs 3.1%)
- Lack of published Australian data on prevalence of diabetes in strokes.

Aims:
1. Prevalence of diabetes in patients admitted with acute strokes or TIA
2. Relationship of diabetes with subtypes of strokes
Study Design & Analysis

Study design:

- Retrospective analysis of the Australian Stroke Clinical Registry (AuSCR) data from Jan 2015 to December 2016 for patients admitted to Ballarat Health Services with acute strokes or TIAs
- Exclusion criteria
  - Stroke mimics: atypical migraines, seizures, delirium
  - Incomplete scanned medical records on Bossnet
- Diabetes
  - Documented diagnosis in medical records for pre-existing diabetes
  - New diagnosis based on biochemical and clinical findings

Analysis:

- Descriptive data for prevalence and baseline demographics
- Chi-square test for independence to determine if there is any relationship between diabetes and subtypes of ischaemic stroke as well as mechanisms of stroke
Results

Basic Demographics:

<table>
<thead>
<tr>
<th>Stroke type</th>
<th>Ischaemic</th>
<th>Haemorrhagic</th>
<th>TIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjects (N)</td>
<td>260</td>
<td>42</td>
<td>75</td>
</tr>
<tr>
<td>Age (SD)</td>
<td>71.74 (14.06)</td>
<td>71.29 (13.73)</td>
<td>68.91 (13.13)</td>
</tr>
<tr>
<td>Female (%)</td>
<td>41.54</td>
<td>61.9</td>
<td>48</td>
</tr>
<tr>
<td>Diabetes (%)</td>
<td>26.92</td>
<td>19.05</td>
<td>21.33</td>
</tr>
<tr>
<td>AF (%)</td>
<td>34.23</td>
<td>23.81</td>
<td>21.33</td>
</tr>
<tr>
<td>HTN (%)</td>
<td>68.07692308</td>
<td>61.9047619</td>
<td>68</td>
</tr>
<tr>
<td>Previous strokes/TIA (%)</td>
<td>29.61538462</td>
<td>14.28571429</td>
<td>34.66666667</td>
</tr>
</tbody>
</table>

Key Findings: *2015 data presented as a poster at World Stroke Congress, Montreal, 2018 (6)

1. High prevalence of diabetes in strokes – 27% ischaemic strokes, 19% haemorrhagic strokes
2. Predominant mechanism of ischaemic stroke being cardioembolism (43%)
3. No significant relationship was found between diabetes and stroke territory as well as mechanism (p-value of 0.943 and 0.184 respectively)
4. In ischaemic stroke patients with diabetes, 33% of them have poor glycaemic control (HbA1c >8.0)
5. For ischaemic stroke patients with no history of diabetes, 6 subjects (3%) had fasting glucose >7.0 while 104 subjects (54.7%) had no records on system
6. There were 4 new diagnoses of diabetes in the ischaemic stroke patient group
References


Abstracts

Presented at the World Stroke Congress 2018

Thank You!