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The impact of the introduction of icatibant on A&E attendances, hospital admissions and acute treatment episodes in patients with hereditary angioedema

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INTRODUCTION
• Hereditary angioedema (HAE) is a rare genetic disorder characterised by deficiency of C1 esterase inhibitor. Patients experience episodic attacks of subcutaneous and/or mucosal angioedema mediated by bradykinin.
• Rapid acute treatment of HAE attacks has been reported to reduce severity and duration of attacks1.
• Icatibant, a bradykinin receptor inhibitor, licensed for acute treatment of HAE attacks can be self-administered at home via subcutaneous injection. We introduced icatibant onto our formulary in 2013.
• Prior to 2013 patients needed to attend A&E to receive C1 esterase inhibitor due to lack of a home C1 esterase inhibitor service. This often led to delays in treatment and some patients choosing not to treat their attacks.
• We report here, the impact of the introduction of icatibant via homecare on A&E attendance, hospital admissions and acute treatment episodes where medication was administered.

METHODS
• The A&E admissions system, pharmacy records and medical notes of HAE patients on icatibant who had a Leeds area postcode (LSXX) were retrospectively reviewed.
• Data was collected for 1 year prior to a patient starting on icatibant (Year 1) and for 1 year after (Year 2).

RESULTS
• A&E attendance and hospital admissions were significantly reduced in the year following icatibant introduction.
• No patient had an increase in A&E attendance in Year 2.
• Patients received more treatment for acute attacks in Year 2 vs. Year 1.
• Both patients who stopped oral prophylaxis had an increase in acute attacks and treatment usage. However, neither attended A&E or were admitted to hospital in Year 2. Their data has been excluded from the treatment episode data as they were significant outliers.

Table 1: Patient Demographics

<table>
<thead>
<tr>
<th>Demographic</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total no. of patients</td>
<td>20</td>
</tr>
<tr>
<td>Age (years)</td>
<td>45±15 (25-84)</td>
</tr>
<tr>
<td>Male</td>
<td>3 (15%)</td>
</tr>
<tr>
<td>Female</td>
<td>17 (85%)</td>
</tr>
<tr>
<td>No. of patients on oral prophylaxis* pre-icatibant</td>
<td>13 (65%)</td>
</tr>
<tr>
<td>No of patients on oral prophylaxis* post-icatibant</td>
<td>11 (55%)</td>
</tr>
</tbody>
</table>

*Oral prophylaxis = stanozolol, danazol or tranexamic acid

Table 2: Results

<table>
<thead>
<tr>
<th>Metric</th>
<th>Year 1 (before icatibant)</th>
<th>Year 2 (post icatibant)</th>
<th>% change (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total no. of A&amp;E attendances</td>
<td>16</td>
<td>3</td>
<td>- 81 (&lt;0.02)</td>
</tr>
<tr>
<td>No. of hospital admissions</td>
<td>9</td>
<td>1</td>
<td>- 89 (0.1)</td>
</tr>
<tr>
<td>C1 esterase inhibitor usage (units)</td>
<td>21,000</td>
<td>5000</td>
<td>- 76 (&lt;0.05)</td>
</tr>
<tr>
<td>No. of icatibant syringes</td>
<td>0</td>
<td>42</td>
<td>-</td>
</tr>
<tr>
<td>No. of treatment episodes where treatment was administered</td>
<td>17</td>
<td>27</td>
<td>+ 59 (0.1)</td>
</tr>
</tbody>
</table>

Graph 1: Change in A&E attendance & Hospital admissions
Graph 2: Change in number of acute attacks where treatment was given

PATIENT EXPERIENCE
My symptoms now resolve much quicker
Previously I would only go to A&E for facial angioedema and would wait at home for any other angioedema
Home treatment has been a life saver
It has improved the quality of my life

CONCLUSION
• Home treatment with icatibant for acute attacks of HAE leads to a reduction in A&E attendance and hospital admissions despite an increase in the number of acute attacks where treatment is administered. It also results in improved patient experience.

REFERENCES

In relation to this presentation, I declare the following, real or perceived conflicts of interest – This work was undertaken using a research grant from Shire Pharmaceuticals.