Implementation of an evidenced based acute tonsillitis protocol: Our experience in one hundred and twenty-six patients

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Introduction

• Tonsillitis represents a significant financial burden to the National Health Service with approximately 60,000 patients admitted to hospital in 2010/11 with this diagnosis alone with a mean stay of 22 hours.

• Treatment algorithms have been proposed for the management of peritonsillar abscess, advocating initial aggressive treatment and on-going outpatient therapy. However there have been no published protocols on the management of tonsillitis to date.

• This study aims to implement an effective and safe protocol termed the Portsmouth Protocol for use in patients presenting with tonsillitis, assessed through a two cycle audit.

Methods

• Within the first cycle 86 patients presenting with a diagnosis of tonsillitis to Queen Alexandra Hospital were studied through a retrospective examination of their inpatient notes and pertinent details recorded.

• Following the first cycle, an evidence-based treatment algorithm (Portsmouth Protocol, Figure 1) was introduced. Following implementation of the Portsmouth Protocol, a prospective cycle was conducted involving 40 patients.

Formulation of guidelines

• Following the diagnosis of tonsillitis, patients were then managed via the protocol.

• In conjunction with the Microbiology, Otolaryngology and Pharmacy departments it was decided that antibiotics should be administered intravenously to all patients within the algorithm as a trial of directed medical therapy.

• All patients also received at least one dose of intravenous steroid. This was following evidence suggesting that a single dose of dexamethasone as adjuvant therapy could result in pain reduction and expedite the speed of symptom resolution (Hayward et al.)

• All discharged patients were provided with an information leaflet providing detailed explanation of their condition, together with management advice.

• Patients were also urged to return to either their general practitioner or emergency department if their symptoms worsened.

Reference:

Figure 1: The Portsmouth Tonsillitis Protocol

Results

Table 1: Effects of protocol implementation on admission rates

<table>
<thead>
<tr>
<th></th>
<th>Prior to protocol: Admission duration; hours</th>
<th>Following protocol: Admission duration; hours</th>
<th>Statistical significance (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total admission rate</td>
<td>81/86 (94%)</td>
<td>16/40 (40%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Infections Mononucleosis</td>
<td>17/86 (20%)</td>
<td>7/40 (18%)</td>
<td>0.115</td>
</tr>
<tr>
<td>Previous course of oral antibiotics prior to referral</td>
<td>31/86 (36%)</td>
<td>15/40 (38%)</td>
<td>0.875</td>
</tr>
</tbody>
</table>

Table 2: Effects of protocol implementation on duration of inpatient stay

<table>
<thead>
<tr>
<th></th>
<th>Prior to protocol: Admission duration; hours</th>
<th>Following protocol: Admission duration; hours</th>
<th>Statistical significance (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean duration of admission</td>
<td>36</td>
<td>14</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Infections Mononucleosis</td>
<td>33</td>
<td>36</td>
<td>0.099</td>
</tr>
<tr>
<td>Previous course of oral antibiotics prior to referral</td>
<td>39</td>
<td>16</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Conclusions

• The Portsmouth Protocol significantly reduces hospital admission rates (54% reduction) and duration of inpatient stay (22 hours per patient reduction).

• These guidelines are simple to implement, improve delivery of tonsillitis treatment and do not result in increased re-admission rates.

• This protocol has significantly reduced the requirements for inpatient hospital services, resulting in a potential saving of £61 450 (reduced admission rate and length of hospital stay, calculated at £225 per hospital bed, per day) over a 4 month period.

• These guidelines are likely to result in significant cost savings vitally important in the current economic climate.