Needle aspiration versus incision and drainage for the treatment of peritonsillar abscesses

Andrew Thamboo, Brent A. Chang, Chris Diamond, Desmond A. Nunez
Division of Otolaryngology - Head & Neck Surgery, University of British Columbia

Abstract

Background: Peritonsillar abscesses are a common otolaryngological emergency. Needle aspiration and incision and drainage are the two main treatment modalities currently used. The effectiveness of one versus the other remains an area of debate amongst otolaryngologists.

Objectives: To determine whether needle aspiration or incision and drainage is the superior treatment for peritonsillar abscesses.

Methods: We searched the Cochrane Ear, Nose and Throat Disorders Group Trials Register; the Cochrane Central Register of Controlled Trials (CENTRAL, The Cochrane Library); PubMed; EMBASE; Web of Science; ClinicalTrials.gov; and Google Scholar for relevant English studies. Selection criteria were applied to limit the review to randomized controlled trials comparing needle aspiration to incision and drainage in humans over the age of 12 years. The primary outcome studied was abscess recurrence rate.

Results: Five studies were identified which compared needle aspiration to incision and drainage. All were of poor quality with no paper having a Jadad score above 2. One study reported a higher recurrence rate with needle aspiration and four no obvious difference in recurrence rate between the two techniques. Meta-analysis was inappropriate.

Conclusions: Currently, there is insufficient evidence to determine which if any of the two treatments is superior. A sufficiently powered, well-designed randomized controlled clinical trial is required to compare the effectiveness of needle aspiration with incision and drainage for the treatment of peritonsillar abscesses.

Introduction

Peritonsillar abscesses are a common deep neck space infection often treated by otolaryngologists. Needle aspiration and incision & drainage are the two main treatment modalities for peritonsillar abscesses. Needle aspiration involves using a large-bore needle inserted through the palatoglossus muscles into the potential abscess space. The incision and drainage method utilises a guarded scalpel to incise the palatoglossus muscle and enter the peritonsillar space. The incision is then widened to allow for drainage of the abscess. The best method for treating peritonsillar abscesses is widely debated. Currently, there is a wide variation in regional and individual practice patterns.

Methods

Systematic review: Cochrane Ear, Nose and Throat Disorders Group Trials Register; the Cochrane Central Register of Controlled Trials (CENTRAL, The Cochrane Library); PubMed; EMBASE; Web of Science; ClinicalTrials.gov; and Google Scholar for relevant studies.

Studies limited to: Randomized controlled trials
Comparison of needle aspiration to incision & drainage
Patients >12 years old
English language studies

Primary outcome: Abscess recurrence rate

Results

Figure 1. Search strategy flow diagram.

1645 records retrieved through search
683 references screened
20 full-text articles assessed for eligibility
5 studies included

Table 1. Summary of studies

<table>
<thead>
<tr>
<th>Type of study</th>
<th>Participants</th>
<th>Results</th>
<th>Study limitations</th>
<th>Jadad score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spires et al. 1987</td>
<td>Quasi-randomized controlled trial N = 62</td>
<td>No difference in recurrence</td>
<td>Questionable randomization, withdrawals/dropouts not specified</td>
<td>0</td>
</tr>
<tr>
<td>Stringer et al. 1988</td>
<td>Randomized controlled trial N = 52</td>
<td>No difference in recurrence</td>
<td>Unclear randomization, withdrawals/dropouts not specified</td>
<td>1</td>
</tr>
<tr>
<td>Khan et al. 2011</td>
<td>Randomized controlled trial N = 62</td>
<td>Higher recurrence with needle aspiration</td>
<td>Treatment crossover, not clear which treatment arm dropouts were in</td>
<td>1</td>
</tr>
<tr>
<td>Maharaj et al. 1991</td>
<td>Randomized controlled trial N = 60</td>
<td>No difference in recurrence</td>
<td>Unclear randomization</td>
<td>2</td>
</tr>
<tr>
<td>Sheikh et al. 2012</td>
<td>Randomized controlled trial N = 50</td>
<td>No difference in recurrence</td>
<td>Treatment crossover, withdrawals/dropouts not specified</td>
<td>1</td>
</tr>
</tbody>
</table>

Discussion

All of the studies identified in this review were of generally low quality, due to concerns with study design, incomplete information on randomization and withdrawals/dropouts, and incomplete data reporting. Given the low quality of studies, meta-analysis was not appropriate.

Conclusions

1) There is insufficient evidence to determine whether needle aspiration or incision and drainage is superior
2) A well designed randomized controlled clinical trial is needed

References