Antibiotics after dog bite

Report by Sue Maurice, Consultant
Search checked by Katrina Herren, Research Fellow

Clinical scenario
A 30 year old man attends the emergency department having been bitten by a dog four hours previously. He has puncture wounds and a 1 cm laceration on his forearm. His wounds are thoroughly cleaned and a dressing applied. You want to know whether to prescribe antibiotics as well.

Three part question
In [healthy adults with dog bite wounds] do [prophylactic antibiotics] reduce [the incidence of wound infection]?

Search strategy
Medline 1966 to 06/98 using the OVID interface. [((exp antibiotics OR antibiotic$ti.ab.sh) AND (exp bites and stings OR bite$ti.ab.sh)) AND (exp dogs OR dog$ti.ab.sh OR canine$ti.ab.sh)] LIMIT to human AND english language.

Search outcome
Altogether 120 papers found of which one was a meta-analysis of eight other papers (randomised controlled trials) which were also found; 111 papers were discarded as either irrelevant or of insufficient quality for inclusion; the remaining paper is shown in table 3.

Comment
All the studies used oral antibiotics—mainly penicillin or penicillinase resistant penicillin. This paper accounts for the variable quality of the trials that were included. The test for heterogeneity of the relative risks was not significant (p = 0.36). This analysis does not address the issues of which antibiotic to prescribe, or which wounds are at higher risk of infection.

Clinical bottom line
Use of oral antibiotics for all types of dog bite wounds reduces the risk of infection by nearly half. A prescribing policy that limits antibiotics to higher risk wounds may be effective.

Table 3

<table>
<thead>
<tr>
<th>Author, date, and country</th>
<th>Patient group</th>
<th>Study type (level of evidence)</th>
<th>Outcomes</th>
<th>Key results</th>
<th>Study weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cummings, 1994, USA¹</td>
<td>8 randomised controlled trials</td>
<td>Meta-analysis</td>
<td>Wound infection</td>
<td>Relative risk of infection in the treated (antibiotic) group was 0.56 (14 patients must be treated to prevent 1 infection)</td>
<td>This was not a systematic review</td>
</tr>
</tbody>
</table>


Immobilisation after first anterior shoulder dislocation

Report by Wendy Dollery, Senior Registrar
Search checked by Simon Carley, Clinical Fellow

Clinical scenario
A 25 year old man presents to the emergency department with a left anterior shoulder dislocation. This is reduced satisfactorily. You wonder how long his shoulder should be immobilised? There is no previous history of a dislocation.

Three part question
In [patients less than 30 years old presenting with first anterior shoulder dislocation] is [early mobilisation better than delayed mobilisation] at [reducing the redislocation rate]?

Table 4

<table>
<thead>
<tr>
<th>Author, date, and country</th>
<th>Patient group</th>
<th>Study type (level of evidence)</th>
<th>Outcomes</th>
<th>Key results</th>
<th>Study weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kiviluoto et al, 1980, Finland¹</td>
<td>226 patients aged 16–86 years with primary anterior shoulder dislocation, 53 patients were less than 30 years old Immobilisation for 3 weeks v immobilisation for 1 week</td>
<td>Prospective controlled trial over 1 year</td>
<td>Redislocation rate</td>
<td>6/27 (22%) v 13/26 (50%); p &lt; 0.05</td>
<td>Randomisation not stated</td>
</tr>
<tr>
<td>Howelius et al, 1996, Sweden²</td>
<td>257 patients age 12–40 years with primary anterior shoulder dislocation, 84 patients were less than 30 years old Immobilisation for 3–4 weeks v immobilisation in a sling until comfortable</td>
<td>Prospective multicentre controlled trial over 10 years</td>
<td>Redislocation rate</td>
<td>44/65 (67%) v 40/68 (59%)</td>
<td>10 patients lost to follow up</td>
</tr>
</tbody>
</table>

³ The Clinical Evidence database (www.clinicalevidence.com) was searched for observational studies and randomised controlled trials.  
⁴ The Cochrane database of systematic reviews was searched for relevant papers.  
⁵ This is a randomised controlled study of early mobilisation vs delayed mobilisation.  
⁶ The control group was not immobilised for the full 3 weeks, thus the two groups were not comparable.  
⁷ The study was not published in English.  
⁸ The study was not randomised.  
⁹ The study was not multicentre.  
¹⁰ The study was not controlled.  
¹¹ The study was not published.