Patients’ understanding of tetanus immunisation

F Davies, L C Luke, P Burdett-Smith

Abstract
Objective—To investigate patients’ understanding of the use of adsorbed tetanus toxoid (ATT) in an accident and emergency (A&E) unit.
Methods—500 patients attending the minor injuries unit of the Royal Liverpool University Hospital in one calendar month completed a questionnaire under the supervision of the triage nurse. Analysis of results was at the 95% confidence level. Occupation was used as a guide to social class.
Results—Analysis of 296 male and 204 female respondents revealed that 50.4% thought that ATT is an antibiotic and 81% thought it protected against wound infection; 35.6% thought that concurrent antibiotic treatment would be rendered unnecessary. There was a significant gradient in accuracy of response from social classes I to V for each question.
Conclusions—While few patients refuse the offer of ATT immunisation, true understanding of its purpose and limitations is lacking. This may reduce awareness of potential wound infection and possibly decrease compliance with concurrent antibiotic prescription. A&E and primary care staff should acknowledge the prevalence of these misunderstandings and assist in patient education.


Key terms: adsorbed tetanus toxoid; patient education; antibiotics; wound infection

Adsorbed tetanus toxoid (ATT) injections are given in large numbers on a daily basis throughout the United Kingdom. In our review clinic we noticed that some patients, having received the tetanus injection, were surprised if they developed a wound infection. Some also admitted non-compliance with subsequent antibiotic treatment, believing the tetanus injection to have provided protection against infection. We therefore conducted a survey into patients’ understanding of tetanus immunisation.

Methods
In November 1994, patients attending the minor injuries section of the accident and emergency (A&E) department at the Royal Liverpool University Hospital were asked to complete a questionnaire at the triage desk (see the figure). There were no refusals but patients who were clearly intoxicated, aggressive, or mentally incompetent were excluded.

Occupation was used as a guide to social class and was analysed using the Office of Population Censuses and Surveys guide by the first author. Unclassifiable categories included housewives, students (patients in ongoing education), the retired (over 65, or those who had taken early retirement), and the unemployed. Patients were not asked about previous careers or training. Question 5 was used as a “lead in” question and to indicate that patients did not have to be in need of immunisation in order to complete the questionnaire. Statistical significance was measured at the 95% confidence level.

Results
Five hundred and seven questionnaires were completed. Five hundred were analysed. Seven were discarded due to incompleteness. Since “don’t know” was not an option in the tick boxes, occasional answers were left blank. Two hundred and ninety six patients were male and 204 female, a ratio of 1:45:1 (characteristic of the male predominance among emergency department attenders). The age distribution also followed a common pattern, with 271 patients (54%) aged 20–39 years. Ninety one respondents (18%) were unemployed (a reflection of the inner city catchment area).

Overall, 252 patients (50.4%) thought that the tetanus injection was an antibiotic; 430 (86%) thought that it was a vaccine which would protect them against tetanus in the future; 406 (81%) thought that it would prevent wound infection; 309 (62%) thought that it did not substitute for a course of antibiotics, but 178 (35.6%) thought that antibiotics were rendered unnecessary.

There was a statistically significant gradient in accuracy of response from social classes I to V for each question (table). The student group performed significantly better than the unemployed group in questions 6, 8, and 9. No pattern was observed between the retired and housewives compared with other groups. Men performed significantly better only on question 6: 127 (43%) answered correctly compared with 32 women (16%), a difference of 27% (95% confidence interval 20% to 35%). There was no significant difference in responses by age group (analysed in decades). Those who had had a tetanus booster within the previous year did not perform significantly differently from those who had not.

Discussion
Our survey reveals a poor level of knowledge concerning tetanus immunisation. Half the respondents thought that the ATT was an antibiotic, yet the majority (86%) also believed
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The doctors in this department would be very grateful if you could help them in completing this short questionnaire. It is confidential. Please can you try to answer all the questions even if you are not sure of the answer.

Thankyou.

1. Age
2. Sex  M  F
3. Occupation/job
4. How long ago was your last tetanus injection? 
5. Were you expecting a tetanus injection today? 
6. Do you think that the tetanus injection is an antibiotic injection? 
7. Do you think that it is a vaccination which protects against tetanus in the future? 
8. Do you think that it will help prevent infection in your wound? 
9. Do you think that it makes a course of antibiotic tablets unnecessary?

The tetanus questionnaire.

Correct answers by social class, n (%) 

<table>
<thead>
<tr>
<th>Question</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC I</td>
<td>4 (100)</td>
<td>4 (100)</td>
<td>2 (50)</td>
<td>4 (100)</td>
</tr>
<tr>
<td>II</td>
<td>32 (65)</td>
<td>47 (96)</td>
<td>14 (29)</td>
<td>44 (80)</td>
</tr>
<tr>
<td>III</td>
<td>23 (51)</td>
<td>37 (82)</td>
<td>7 (16)</td>
<td>32 (71)</td>
</tr>
<tr>
<td>IVII</td>
<td>17 (30)</td>
<td>47 (82)</td>
<td>4 (7)</td>
<td>27 (47)</td>
</tr>
<tr>
<td>IV</td>
<td>17 (30)</td>
<td>47 (82)</td>
<td>4 (7)</td>
<td>27 (47)</td>
</tr>
<tr>
<td>V</td>
<td>6 (30)</td>
<td>19 (95)</td>
<td>1 (5)</td>
<td>11 (55)</td>
</tr>
</tbody>
</table>

SC, social class; N, non-manual; M, manual.

We were aware that there were only subtle differences in meaning between questions 6 to 9. Eighty six patients (17-2%) answered "yes" to all four questions. This could be due to a poor level of understanding or the power of suggestion for what might seem to be the "right" answer.

Tetanus is a rare disease and refusal of antibiotic immunisation is unusual. One wonders if this would be so if patients understood the limitations of the ATT! Although misunderstanding regarding antibiotics and vaccines is perhaps understandable, it is important to realise the prevalence of the confusion and its possible effect on antibiotic compliance. Our findings have implications for both A&E and primary care departments. As a result of our survey we have now designed an information leaflet in order to improve patient education.

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