Thousands of lives could be saved using tranexamic acid for patients with bleeding trauma

A systematic review of randomised controlled trials of the effectiveness of tranexamic acid (TXA), which reduces clot breakdown, in patients with bleeding after severe injury shows that this inexpensive drug could save tens of thousands of lives a year. The review found that TXA reduces the risk of death in injured patients with severe bleeding by about 10% compared with giving no treatment. This would equate to more than 70,000 lives a year if treatment were rolled out world wide (see table 1). On the basis of these new findings, the British military have already started using TXA to treat soldiers wounded in battle in Afghanistan, and TXA is now being incorporated into civilian trauma treatment protocols around the world.

Most of the data in the review came from the international CRASH-2 trial, which recruited 20,211 patients with bleeding trauma from some 40 countries world wide and showed that TXA significantly reduces mortality with no apparent increase in the risk of vascular occlusive events. Because the CRASH-2 results are based on large numbers of patients, with both blunt and penetrating trauma, and from many different countries, they can be generalised widely. Given the high quality of evidence for the benefits of this drug, the authors recommend that TXA is considered for use in every patient with severe bleeding from traumatic injury.

Studies are now underway to see if TXA can reduce deaths from post partum haemorrhage (which kills about 100,000 women each year, most of whom live in developing countries) and traumatic intracranial bleeding which is a major cause of death and disability. Further interactive material on the topic is available through the Cochrane Journal Club.

The review mentioned here is published on the Cochrane Library (http://www.thecochranelibrary.com/) website. For further information on this or other Cochrane reviews contact Emma Sydenham, managing editor of the Cochrane Injuries Group (emma.sydenham@lshtm.ac.uk).

Table 1 Deaths that could be avoided by the administration of tranexamic acid (TXA) to patients with bleeding trauma (10 countries with the highest numbers of avoided deaths shown)1

<table>
<thead>
<tr>
<th>Country</th>
<th>Trauma deaths</th>
<th>Haemorrhage deaths</th>
<th>Deaths averted with TXA</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>714 730</td>
<td>85 768</td>
<td>12 865</td>
</tr>
<tr>
<td>China</td>
<td>667 277</td>
<td>80 073</td>
<td>12 011</td>
</tr>
<tr>
<td>Indonesia</td>
<td>278 499</td>
<td>33 534</td>
<td>5030</td>
</tr>
<tr>
<td>Russia</td>
<td>246 836</td>
<td>29 620</td>
<td>4443</td>
</tr>
<tr>
<td>Brazil</td>
<td>122 953</td>
<td>14 754</td>
<td>2206</td>
</tr>
<tr>
<td>USA</td>
<td>122 529</td>
<td>14 703</td>
<td>2206</td>
</tr>
<tr>
<td>Iraq</td>
<td>99 968</td>
<td>11 996</td>
<td>1799</td>
</tr>
<tr>
<td>Nigeria</td>
<td>87 811</td>
<td>10 537</td>
<td>1581</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>76 938</td>
<td>9233</td>
<td>1385</td>
</tr>
<tr>
<td>DRC</td>
<td>73 579</td>
<td>8829</td>
<td>1324</td>
</tr>
<tr>
<td>World</td>
<td>4 100 645</td>
<td>492 077</td>
<td>73 812</td>
</tr>
</tbody>
</table>

Copyright Cochrane Collaboration, reproduced with permission. Trauma and haemorrhage death estimates taken from the WHO Global Burden of Disease Study: http://www.who.int/healthinfo/global_burden_disease/en/.

REFERENCES
Thousands of lives could be saved using tranexamic acid for patients with bleeding trauma

Emma Sydenham

*Inj Prev* 2011 17: 211 originally published online May 5, 2011
doi: 10.1136/injuryprev-2011-040059

Updated information and services can be found at:
http://injuryprevention.bmj.com/content/17/3/211

These include:

**References**

This article cites 2 articles, 0 of which you can access for free at:
http://injuryprevention.bmj.com/content/17/3/211#BIBL

**Email alerting service**

Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

**Topic Collections**

Articles on similar topics can be found in the following collections

- Clinical trials (epidemiology) (117)
- Epidemiologic studies (842)
- Spinal cord injury (14)

**Notes**

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/