Regional Blood Transfusion Centre, for their support and encouragement in the course of this project.

References


Addendum

We observed that cell sensitization was successful when prepared by mixing in an MRC 500 ml bottle by mechanical turntable but unsuccessful when performed in the same type of bottle using a magnetic mixer with plastic-coated follower. Adsorption of HBsAg onto the plastic follower has been eliminated but the electrochemical or electrophysical possibilities for the failure have yet to be investigated.

Letter to the Editor

Heparin in Intravenous Fluids

Okuno and Nelson (J. clin. Path., 28, 494, 1975) conclude that there is a substantial loss of anticoagulant activity when heparin is dissolved in intravenous solutions. We have been unable to demonstrate any progressive loss of activity using the anti-activated factor X assay of Denson and Bonnar after the addition of heparin to either 0-9% saline or 5% Dextrose.

We mixed 1 ml of Evans Pularin Heparin (5000 units per ml) with the intravenous solution to give a final concentration of 10 units of heparin per millilitre. This dilution was carried out immediately before assay, six hours before and 24 hours before, using the same vial of heparin. Just before assay each dilution of heparin was further diluted 1:100 into normal citrated plasma to give a final heparin concentration of 0-10 units per ml. In each experiment all the heparin assays were carried out at the same time, and the results were compared with a series of dilutions of the MRC Biological Standard Heparin.

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Tests</th>
<th>Heparin Conc. (u/ml) Mean</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heparin in 0.9% Saline</td>
<td>28</td>
<td>9.0</td>
<td>7.2-11.6</td>
</tr>
<tr>
<td>6 h</td>
<td>10.0</td>
<td>9.0-11.6</td>
<td></td>
</tr>
<tr>
<td>24 h</td>
<td>9.9</td>
<td>8.0-11.6</td>
<td></td>
</tr>
<tr>
<td>Heparin in 5% Dextrose</td>
<td>9</td>
<td>8.3</td>
<td>5.6-10.4</td>
</tr>
<tr>
<td>6 h</td>
<td>7</td>
<td>9.2</td>
<td>7.6-11.6</td>
</tr>
<tr>
<td>24 h</td>
<td>7</td>
<td>8.3</td>
<td>5.6-10.4</td>
</tr>
</tbody>
</table>

There is no progressive loss of heparin activity and only a small loss of activity when heparin is added to 5% Dextrose.

The difference between our results and the previously published ones may be due to either the different brand of heparin used, the assay system used to detect the anticoagulant activity, or the fact that we carried out all the assays of a single experiment at the same time, so eliminating the drift that may occur when sequential assays are employed.

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Book reviews


Although this book has 26 chapters written by different authors, there is a coherence about it not usually found in such multi-author works. One immediately obvious reason for this is the use of a common format for the many magnificant drawings and illustrations; the common format, which is also used for the text, is the one used by Scientific American. A deeper reason for the coherence of the book is the emergence in the last few years of the Singer-Nicholson model of the cell membrane; this model is repeatedly used by the various authors to explain the biochemical, physiological, and pathological properties of membranes.

The articles originally appeared in Hospital Practice and were presumably written for clinicians, but the book...
Letter: Heparin in intravenous fluids.

C G Raper and E Johnson

doi: 10.1136/jcp.29.4.366-a

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