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hours after operation and repeated two-hourly. The vomiting however persisted although less projectile in character. Gastric lavage and rectal glucose and saline was continued. On the fourth day after operation the child was still vomiting but less frequently. She was not making much headway and had constantly cried. On examination of the wound it was found that the stitches had all given way and omentum and intestine was protruding from the wound. I attribute this to the constant vomiting and crying combined with the malnutrition of the tissues.

The child was taken at once to the theatre, anaesthetized, and the parts examined. I was thus given the valuable opportunity of seeing the result of the operation after such a short time. The stomach showed no signs of distention although naturally still somewhat larger than normal. The incision in the pyloric muscle-fibres was well open with the mucosa bulging through and covered with lymph. The thickness of the hypertrophied muscle-fibres was about half what it was at the previous operation. I was able to squeeze some of the stomach contents quite easily through into the duodenum, proving that the pylorus was functioning adequately. There were no adhesions and the small bowel which had been completely collapsed was found healthy and of normal calibre. The peritoneum was sewn up with difficulty owing to the unhealthy edges, and the muscle and skin wounds brought together, four deep tension sutures of silkworm gut being used in addition to the usual superficial interrupted sutures.

From this point the child made slow but steady progress, and at the time of writing is taking normal breast feeds without any vomiting and is gaining weight. This in spite of the fact that all the silkworm gut sutures have again practically given way. However, the wound although gaping, is covered with granulations and is healing.

I am indebted to Captain C. F. Burton, M.C., R.A.M.C., Officer Commanding, Helena Families Hospital, for the use of his notes, and to him and the ladies of the Q.A.M.F.N.S., of that hospital, for the skill and devotion with which these cases were treated, and to which I consider their recovery is entirely due. My thanks are also due to the Senior Medical Officer, Shorncliffe Area, for permission to publish these notes.

THE USE OF EMETINE IN TREATING BILHARZIA DISEASE IN THE CHILD.

By F. G. Cawston, M.D.Cantab.

Some time ago I was approached by an officer of the Royal Army Medical Corps who had been called upon to treat some children who were suffering from chronic hæmaturia associated with the presence of Schistosoma haematobium. Unfortunately the fresh-water mollusc responsible for the spread of this parasite has not yet been recovered from the locality in which these children acquired the infection. As there were reasons against
intravenous injections in these cases, I recommended intramuscular injections of emetine. When careful regard is paid to cardiac depression in the third week of treatment, and local muscular tenderness is avoided by dissolving the emetine in a 1 per cent carbolic acid solution, or by an occasional hot sea-water bath, a permanent cure is assured in all patients under the age of 15 that are able to tolerate a total dose of from 12 to 15 grains in not more than twenty-four days.

I have cured a patient by intravenous injections of antimony who had resisted subcutaneous injections of emetine given in small doses twice daily for about three weeks. 11½ grains of emetine given intramuscularly over a period of twenty-two days failed to cure a patient of mine who, five months later, was permanently cured by a further series of injections with a total of only 8½ grains in twenty days. 10½ grains failed to cure a boy of 10, when given over a period of 40 days; but 10 months later he was cured by 13½ grains in 24 days. 10½ grains in 16 days failed to cure a boy of 14, who appeared to be permanently cured after receiving a further total of 13½ grains in nineteen days nine months later.

Although a few days' rest in bed and the oral administration of some preparation of digitalis may be sufficient to counteract any detrimental effect caused by the use of those larger doses of emetine which are essential to produce a permanent cure of bilharzia disease; yet, in view of the fact that these parasites tend to die out of themselves, it is better to risk an incomplete cure than to produce permanent damage to the heart of a bilharzia case by continuing the use of emetine after the pulse has become rapid. When tartar emetic is obtained in powders from the local chemist, from time to time one is sure to get rather serious toxic effects from impurities in the powders supplied; however, the combined tartar emetic and saline tablets which are now prepared by the leading druggists for dissolving in boiling tap water, just before use, are so free from toxic effects in the doses required to produce permanent cures for bilharzia patients, that the use of emetine may be regarded as unwarranted in all cases where intravenous injections can be employed.

The following table indicates the difficulty which may be experienced in deciding which drug to employ and what doses to use in young persons. They were members of the same family who had contracted bilharzia disease from a Natal river, and numerous spine-pointed ova were found in the urine; an elder brother had been cured by hospital treatment lasting about two months. They came to my consulting room unattended, and showed no fear of the injections.

In the case of the little girl, no suitable veins were observed, so that treatment was discontinued on the eighteenth day on account of cardiac depression due to the emetine. The little boy of 9 picked up well, as soon as the tartar emetic injections were commenced; his brother of 14 received the two injections of emetine and a few days' treatment with sodium
Clinical and other Notes

sulphate for associated dysentery which responded rapidly to this line of
treatment.

<table>
<thead>
<tr>
<th></th>
<th>GIRL OF 12.</th>
<th></th>
<th>BOY OF 9½.</th>
<th></th>
<th>BOY OF 14.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st day</td>
<td>Emetine, ½ gr. (ova x)</td>
<td>2nd ,</td>
<td>Emetine, ⅓ gr. (ova x)</td>
<td>3rd ,</td>
<td>Emetine, ⅓ gr. (ova x)</td>
</tr>
<tr>
<td>4th ,</td>
<td>½ gr.</td>
<td>5th ,</td>
<td>⅔ gr.</td>
<td>6th ,</td>
<td>⅓ gr.</td>
</tr>
<tr>
<td>7th ,</td>
<td>1 gr. Vomited later</td>
<td>8th ,</td>
<td>1⅔ gr. Vomited later</td>
<td>9th ,</td>
<td>1 gr.</td>
</tr>
<tr>
<td>10th ,</td>
<td>1 gr.</td>
<td>11th ,</td>
<td>-</td>
<td>12th ,</td>
<td>-</td>
</tr>
<tr>
<td>13th ,</td>
<td>1⅔ gr. Vomited later</td>
<td>Many dead ova vomited</td>
<td>14th ,</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>15th ,</td>
<td>1 gr.</td>
<td>16th ,</td>
<td>-</td>
<td>17th ,</td>
<td>-</td>
</tr>
<tr>
<td>18th ,</td>
<td>1 gr.</td>
<td>19th ,</td>
<td>Feels cold and miserable</td>
<td>20th ,</td>
<td>Digitol by mouth</td>
</tr>
<tr>
<td>21st ,</td>
<td>Rest in mouth</td>
<td>22nd ,</td>
<td>-</td>
<td>23rd ,</td>
<td>-</td>
</tr>
<tr>
<td>24th ,</td>
<td>-</td>
<td>25th ,</td>
<td>One ovum</td>
<td>26th ,</td>
<td>-</td>
</tr>
<tr>
<td>27th ,</td>
<td>-</td>
<td>28th ,</td>
<td>Recovered</td>
<td>Total—11⅔ gr. of emetine &amp; 6½ gr. of tartar emetic</td>
<td>10 gr. of tartar emetic &amp; 2 gr. of emetine</td>
</tr>
</tbody>
</table>

Throughout the treatment I confined myself to the use of emetine, “hypoloids,” emetine “tableids” and antimonii potassio-tartratis “soloids.”

I observed the same degenerated changes taking place in the ova from the urine of these patients which I have observed in the ova of Schistosoma mansoni, S. bovis and S. spindalis, whilst the patients who harboured these parasites were being treated with either emetine or antimony.

Taking these cases by themselves, the gradual disappearance of ova that have been observed to become more and more degenerated during the course of injections with emetine or tartar emetic cannot be regarded as an infallible sign of cure; but my experience with similar cases would tend to show that I was justified in discontinuing the injections at this stage:—
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10 gr. of emetine in 25 days permanently cured a boy of 13.

Therefore the cardiac depression, evidenced by general malaise, a rapid pulse and weakness of the limbs made me discontinue the use of these large doses of emetine in all cases where tartar emetic could be employed, especially in view of the general improvement in health that was noted in nearly all cases treated with antimony during the course of the injections. Several patients who were suffering from "sandworm" disease and other skin conditions associated with bilharzia disease in Natal remarked on the rapid improvement that they themselves noticed as a result of the tartar emetic injections which would appear to be the most efficient remedy at present in use for "sandworm" disease in Natal.

REPORT ON A CASE OF ANAPHYLAXIS FOLLOWING INOCULATION OF ANTITETANIC SERUM.

By CAPTAIN J. P. MACNAMARA.
Royal Army Medical Corps.

As severe cases of anaphylaxis do not frequently occur in Army medical practice, the following report of one may be of some interest.

A major of the Dover Garrison fell off his horse, cutting his head. As the ground was fouled with stable manure, it was considered advisable to give him an A.T. serum.

On going into his history the following facts were ascertained:

(1) He had received antidiphtheritic serum in 1909, but did not know the dose given him.

(2) He had been inoculated with a full dose of antitetanic serum in France in May, 1915, on account of a very slight wound in the thigh.

(3) After his inoculation in 1915 he had been in hospital from May until the end of July, on account of severe swelling of all his joints, accompanied by an urticarial rash. The slight wound he had received healed readily, and caused practically no inconvenience.
The Use of Emetine in Treating Bilharzia Disease in the Child

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