A NOTE ON 100 CASES OF HELMINTHIASIS WITH SPECIAL REFERENCE TO EOSINOPHILIA

BY

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Parasitic infestations are extremely common in Mauritian and East African troops and, as is well known, are responsible for a good deal of chronic malaise and debility. To the medical officer newly arrived in the Middle East, the therapeutic effect of anthelminthics on cases that would have been diagnosed in U.K. (and often were at their units) as hysteria, functional dyspepsia, dysentery, or neurosis was most rewarding.

Most of the patients were Mauritians, but about 15 per cent. were East Africans. Early in the series, all cases of parasitic diseases were included, but the last forty were selected because Ankylostomes were present. The cases were seen over a period of four months.

1. Analysis of Types of Infestation

<table>
<thead>
<tr>
<th>Infestation Type</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankylostoma duodenale only</td>
<td>60</td>
</tr>
<tr>
<td>A. duodenale and Ascaris lumbricoides</td>
<td>15</td>
</tr>
<tr>
<td>A. duodenale and Taenia</td>
<td>1</td>
</tr>
<tr>
<td>A. duodenale and S. haematobium</td>
<td>1</td>
</tr>
<tr>
<td>As. lumbricoides only</td>
<td>15</td>
</tr>
<tr>
<td>Schistosoma haematobium</td>
<td>5</td>
</tr>
<tr>
<td>Strongyloides stercoralis</td>
<td>1</td>
</tr>
<tr>
<td>Taenia only</td>
<td>2</td>
</tr>
</tbody>
</table>

2. Presenting symptoms. These fell into seven main groups:

(i) Pain referable to the upper alimentary tract, "functional" abdominal pain, "duodenal ulcer," vomiting, etc. 22
(ii) Lower alimentary symptoms: Diarrhoea with blood or mucus with vague generalized abdominal ache 24
(iii) Neurosis: Hysteria, fits, "blackouts," muscular aches 16
(iv) Frank anaemia, i.e., haemoglobin of less than 70 per cent. 5
(v) Haematuria + dysuria (schistosomiasis) 3
(vi) Meningism 2
(vii) No special symptoms—parasites found in the course of lobar pneumonia, tonsillitis, headache, etc. 28

Total 100
Only in one patient was a duodenal ulcer demonstrated by barium meal, after the administration of anthelminthics.

In two cases a fairly confident diagnosis of meningitis was made, but lumbar puncture revealed completely normal C.S.F.; the meningeal signs subsided within 36-48 hours after anthelminthics had been given.

3. Anaemia

Thirty-one cases of hookworm infestation had haemoglobin estimations done, but in only seven cases was anæmia present (i.e., haemoglobin under 70 per cent.); usually the anæmia was gross, of the order of 20-30 per cent. haemoglobin, with hypochromic red cells.

4. Eosinophil Counts

These were done on all cases, and the results (in absolute values) are as under:

<table>
<thead>
<tr>
<th>Eosinophils per cu. mm.</th>
<th>0</th>
<th>1-400</th>
<th>1,000</th>
<th>1,001-3,000</th>
<th>More than 3,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parasites:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. duodenale alone</td>
<td>2</td>
<td>15</td>
<td>26</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>A. duodenale and Ascaris</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Ascaris alone</td>
<td>4</td>
<td>2</td>
<td>8</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Ankylostomiasis+schistomiasis</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taenia+ankylostomiasis</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taenia alone</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Strongyloides stercoralis</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schistomiasis</td>
<td>4</td>
<td>4</td>
<td>20</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

In addition, four patients showed considerable eosinophilia (1,760, 1,540, 1,360 and 885 per cu.mm.), but examination of 5 or 6 stools was negative. Schistosomiasis was excluded.

Taking the upper limit of normal as 400 per cu.mm., eosinophilia in all types of helminthiasis was mild in 46 per cent., marked in 20 per cent. and gross in 6 per cent. of cases.

The maximum count was 5,000 eosinophils in a case of ankylostomiasis (total count, 17,700 cu.mm.). This patient was not anæmic or asthmatic.

Fifty-four of 77 cases of hookworm infestation showed significant eosinophilia.

5. Treatment

Standard anthelminthic treatment for ankylostomiasis was 4 c.c. tetra-chlorethylene, 1 c.c. oil of chenopodium and 240 gr. of magnesium sulphate dissolved in 2 oz. of water, administered on an empty stomach and preceded
and followed by more magnesium sulphate. Surprisingly, such massive purga-
tion usually produced only mild diarrhœa.

This treatment was effective in relieving symptoms in most cases, but in
about 20 per cent. a second dose was necessary. Only in one case was treatment
a failure, *A. duodenale* being found in the stools with monotonous regularity
six days after each of six courses of standard “deworming” and after two doses
of carbon tetrachloride; his dyspepsia and epigastric tenderness were still
present after this régime.

Hexyl resorcinol gr. 15 was effective in ascariasis and filix mas 60 min. or
mepacrine was used in tæniasis. Stibophen (a course of ten injections, 5 c.c.
of 7 per cent solution) seemed effective in schistosomiasis. Gentian violet (both
orally and by duodenal tube) was used in treating strongyloidiasis without
success.

**SUMMARY**

The presenting symptoms of 100 cases of various types of helminthiasis are
listed, and treatment in use at this hospital mentioned.

Some three-quarters of the cases showed a significant eosinophilia; only
seven cases were markedly anæmic.
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*J R Army Med Corps* 1955 101: 254-256
doi: 10.1136/jramc-101-03-15

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