Speciation of Human Hookworm in the Eastern Hills of Nepal

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Of 757 human faecal samples examined at Pahribas Agricultural Centre Veterinary Investigation Laboratory from 1982 to 1985, 17 percent proved positive for hookworm.

As the treatment of hookworm infection in man varies with the species responsible, an attempt was made to differentiate the infective filariform larvae in human faecal cultures.

Ten human faecal samples, positive for strongyle eggs on faecal examination were cultured by the method of Harada and Mori (Thienpont, Rochette and Vanparijs, 1979). For this, about 1/2 gram of faeces was spread on the middle third of a piece of filter paper (13 X 120 mm) and put in a test tube containing 3 ml. distilled water. The test tubes were stoppered and incubated for 10 days at 28°C.

The infective larvae were killed by placing the test tubes in a water bath at 50°C for 15 minutes. The filter paper and stoppers were discarded and the cultures then centrifuged gently for 2 minutes. The supernatant was removed and the deposit stained with one drop of 1 percent methylene blue. 15 larvae from each culture were examined under the microscope.

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Table I Larval Characteristics

<table>
<thead>
<tr>
<th>Length (um)</th>
<th>Sheath (um)</th>
<th>Intestine</th>
<th>Tail</th>
<th>Head</th>
<th>Mouth</th>
</tr>
</thead>
<tbody>
<tr>
<td>613±27</td>
<td>683±24</td>
<td>3/4</td>
<td>Sharply Rounded</td>
<td>Speck not evident</td>
<td></td>
</tr>
</tbody>
</table>

Striations clear at tail end in most specimens

Anterior end as wide as oesophageal bulb. Gap between oesophagus & intestine not readily apparent

The larval characteristics described above resemble those of Necator americanus more closely than Ancylostoma species (Müller, 1975), although it is noteworthy that no gap was distinguished between the oesophagus and intestine and mouth spears were inapparent (both characteristics of Ancylostoma species).

References