Medical Memoranda

An Unusual Case of Intestinal Myiasis

A primipara aged 40, during a routine visit to the antenatal clinic of Queen Mary's Hospital, London, E., produced a bottle containing three small white grubs about 5 mm. in length, which on cursory examination were thought to be the larvae of some fly. I questioned her as to the history of these grubs, and she told me the following story.

For the last two weeks she had been suffering from frequent attacks of diarrhoea and constipation accompanied by some general abdominal pain of a colicky nature. After noticing a few flecks of bright blood in her stools she had examined them more carefully, and on about four occasions just before seeing me she had passed two or three of these grubs, all of which showed signs of life. This alarmed her considerably, and she saved some of the specimens for further examination. I questioned her very closely as to the possibility of outside contamination, and she stated that this was absolutely impossible as all the specimens were quite fresh. As she is a patient of very clean habits and of average intelligence I consider her story to be true in every respect.

The treatment consisted in giving one fluid ounce of liquid paraffin at night for seven days, and this appeared to clear up the condition, for she has had no further symptoms or signs to date.

The grubs were sent to Dr. Fritz Van Emden at the Imperial Institute of Entomology, British Museum. They were identified as the larvae of *Ptinus tectus*, Boield. The adult is a yellowish-brown coleopterous insect about 3 mm. in length. Dried cereal foods are its favourite habitat, and upon these the eggs are laid. It is difficult to understand how the larvae can withstand passage through the stomach, but it is possible that the eggs, which have a resistant chitinous coating, may do so with subsequent hatching in the more alkaline portion of the bowel. Survival and growth here would be possible. The larva is covered with a growth of fairly thick pubescence arising from each segment of the body. The six legs each contain a single sharp claw and the biting jaws are quite formidable. By reason of this armament larvae can remain in the intestine for a considerable period, clinging to the villi and thus resisting peristalsis. The photomicrograph demonstrates some of the points mentioned.

Photomicrograph of larva of *Ptinus tectus*, Boield., from the above case. Magnified 10 diameters, dark background illumination.

From the above short description of this unusual case it would seem that the infestation of the intestine by insectivorous larvae, which though recognized in the textbooks on parasitology is not, I believe, given much thought in this country, should be considered when one is diagnosing a case of diarrhoea accompanied by colicky pain and the passage of blood per rectum. One has only to consider the enormous population of flies and other insects which inhabit this country in the summer and autumn, gaining access to all manner of foodstuffs no matter what precautions may be taken, to see how easily infection could arise. To give one example: we all know how swarms of flies besiege a tree of ripening plums, feasting themselves upon the fruit; and as most insects lay their eggs on their foodstuffs in order that their larvae may gain sustenance, it would appear that these infected fruits would become an excellent vehicle for the infestation of man—especially when one considers how many children eat fruit without inspecting its contents. Thus it would seem that intestinal infestation with insectivorous larvae, known as myiasis, may be by no means as uncommon as we are led to believe.

My thanks are due to Dr. Fritz Van Emden for his part in identification of the larvae, to Dr. J. S. Sharpe for preparation of this specimen for examination by the microscope and for the photograph, and to Mr. Andrew McAllister, F.R.C.S., F.R.C.O.G., for his permission to publish the case.

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Severe Adult Diphtheria with Polyneuritis

During September, 1945, to February, 1946, inclusive, 100 cases of acute adult diphtheria were admitted to the 94th British Military Hospital, Hamburg. In the December and January there had been an epidemic type of severe faucial diphtheria, the clinical picture being gross toxæmia with membrane covering tonsils, uvula, and palate, bull-neck adenitis, and severe polyneuritic complications. Sporadic cases of this type had been observed in Holland and Belgium during the previous winter. Another important feature was the late onset of polyneuritis in cutaneous diphtheria. On admission the average duration of disease was three days; 60% were direct admissions.

TREATMENT

The minimum period in bed was five weeks, and four clearance swabs were taken from the twenty-eighth day of disease. Uncomplicated cases were discharged to the convalescent depot at the end of seven weeks and complicated cases were evacuated to the U.K. when fit to travel.

Antitoxin Dosage.—Nasal and aural: 24,000 units, intramuscularly. Mild faucial, unilateral membrane: 24,000–48,000 units intramuscularly. Moderate faucial, bilateral tonsillar membrane with little toxæmia: 48,000–80,000 units intramuscularly. Severe faucial: all cases received 80,000 units intravenously, repeated if necessary, the standard being the shrinkage of membrane and decrease of the bull-neck adenitis.

Penicillin Dosage.—All severe cases of faucial diphtheria were also given 200,000 units of penicillin daily for three days by continuous intramuscular drip. Cutaneous diphtheria cases had four-hourly penicillin spray, 500 units per ml., applied to the ulcers, as well as intramuscular diphtheria antitoxin.

The type of Klebs-Loeffler bacillus showed no relation to the severity of the disease. Of the severe faucial cases six were of the gravis and five of the mitis type, although in the whole series the gravis type predominated. Of the mild faucial cases one had polyneuritis after eight weeks. Four of the moderate faucial cases had polyneuritis, beginning as early as the end of the fifth week and as late as the twelfth week. Ten of the severe faucial cases had polyneuritis beginning from the end of the fifth week to the tenth week. The typical picture was a palatal paralysis at the end of five weeks, followed by a pharyngeal paralysis at the end of six weeks and generalized polyneuritis at the end of seven or eight weeks. Five patients had to be fed by nasal catheter for 15 days. Two had respiratory paralysis, one having to stay five days in the Both iron lung, being fed by nasal catheter. In all cases complicated by polyneuritis the period in hospital before evacuation to the U.K. was from 12 to 18 weeks. In the 100 cases recorded there was one death, due to early cardiac failure on the twelfth day.

Intramuscular penicillin did not seem to have any dramatic effect in preventing the spread of faucial membrane, reducing toxæmia, or preventing polyneuritic complications. Similar results have been reported by Dodds (1946) and Christie and Preston (1946), but as *C. diphtheriae* is penicillin-sensitive (M.R.C. War Memo, 1944, No. 12), penicillin should be given in all cases of severe diphtheria. Three of the 15 severe faucial cases had positive K.L.B. in the throat after 28 days in spite of 600,000 units of intramuscular penicillin.

Three of the seven cases of cutaneous diphtheria developed polyneuritis, and in each the original ulcer began on the penis. These cases were seen late and had large ulcers of the penis and suprapubic area. From previous experience penicillin spray four-hourly healed the ulcers quicker than the local application of diphtheria antitoxin. Owing to the late onset of polyneuritis the standard adopted was that, when the ulcers had healed, that date was put on the patient's chart as the first day of disease. Local paralysis around the ulcer areas was observed and also visual paralysis along with the polyneuritis.

SUMMARY AND CONCLUSIONS

Faucial diphtheria can be a very dangerous and prolonged disease of adult life.

Cutaneous diphtheria is apt to be missed in the early stages and can produce complications as severe as those of faucial diphtheria.

Systemic penicillin in the dosage mentioned has no dramatic effect in the treatment of diphtheria or in reducing the convalescent carrier rate.

Early intravenous diphtheria antitoxin is still the best line of treatment, although it does not prevent polyneuritic complications.

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