

that the *Panchu* devil had been transferred from the female patient to this man by the *Kaviraj*. Acting under this superstitious belief, the brother and the near relatives of the man proceeded in a body to the house of the female patient, and taught poor Muzdeen a good lesson by belabouring him with *lathis*. On being confronted by the friends of Muzdeen, the infuriated mob grossly assaulted the husband of the female patient and his brothers, forcibly entered the house, broke down the lying-in hut, the very abode of the devil, and, in so doing accidentally struck its inmate, the newly delivered woman.

Two criminal cases were instituted—one by the headman of the house of the female patient and the other by Muzdeen himself. Both the cases were made over to the Bench Court of the Honorary Magistrates at Chuadanga in Nadia, for trial, and the accused were all convicted in the first case. But Muzdeen being a man of liberal views, or of "forget and forgive" principle, was unwilling to proceed with the case at its last stage. And I, with my colleague, as an honorary magistrate, disposed of both the cases by writing out a lengthy story of the prosecution, somewhat in a prosaic and romantic fashion, on the lines laid down by the S. D. Officer as a case of "transferring an evil spirit."

### ASCARIS LUMBRICOIDES INFECTION IN MALABAR DISTRICT.

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It is no conflict with truth and experience to assert that Malabar is the most unfortunate land of round worm infection in the whole Madras Presidency. My short experience does not overstep the bounds of this Presidency, and as such, I cannot reasonably long claim to a first-hand knowledge of the relative prevalence of this disease in Indian provinces. Nevertheless, I am inclined to think that no other place can have a preponderance over Malabar in this respect. The unhygienic method of disposal of the night-soil and the excreta, the shallowness of most of its wells, the dirty habit of many of its folk, its peculiar climate and the vegetarian life of most of its people are among the most potent contributions towards the exuberant propagation of these human foes. Picture to yourself a compound with damp soil, with no definite arrangement for privy accommodation, the wells or rather the apologies for them, shallow, unparapeted and without any cement lining, dug at a spot which has the lowest level in the compound, the whole compound an expanse of wandering streams and stagnant pools in the rainy season and the unprotected wells swelling up with the sub-soil drainage; picture these alarming out-

rages to sanitary principles and you have a clue as to how these parasites flourish in Malabar. The embryos swarm in the filthy pools and thence they proceed to the wells in overwhelming numbers, *viz.*, the sub-soil drainage: in the damp soil they find an unmolested recluse, alike in the vegetation. The drinking of un-boiled water drawn out from these wells, and the consummation of vegetables in an improperly cooked condition and even fresh, form the parts of invasion of the human system by these foes. Children of all ages harbour them in alarming disproportion to adults and, if a child in a household escapes these unwelcome visitations, it is but an outstanding manifestation of divine intervention. Children are freely left to play about in the mud with no covering for their body and in their innocent warfare with the earth, they lodge some poisonously charged mud in their mouth and finger nails. Again, the attention of parents to the cleanliness of their children being everywhere at a miserable discount in the present sad condition of their knowledge of household sanitation, these little folk, without their hands and mouths being cleaned, are propped up before food-stuffs which they pack down their throats with cormorant avidity. When once these parasites gain an entrance into their body, they play such havoc of destruction on their hosts that only personal experience can convince. My short experience in the Cannanore Municipal Hospital has most convincingly impressed on me some, if not all, of the phases of their rivalry in the hospitable intestines of the human host. Now I will deal with the case as it manifests itself in various stages of the life of the host.

#### IN CHILDREN.

It has already been said that children are more susceptible to round worm infection. When once the enemy finds its way into their tender systems, its tenacity to the host is so pronounced that after a time there is more life in the guest than in the host. The child's appetite fails, then comes nausea and with it vomiting. Diarrhoea with frothy stools appears next and nutrition fails. Blood is impoverished in quantity and quality, the mucous membranes become pale, the complexion becomes sallow and pale as in chronic secondary anæmia, hair falls out, fatty tissue disappears, the ribs and other bones become prominent landmarks. The chest becomes apical towards the front, the abdomen protrudes as though it were an inflated toy balloon tied on to a stick, and the legs appear as two slender sticks stuck into either side of the flattened out gut. The child has no sleep, fits of convulsing and agonising abdominal pain are constant accompaniments. The whole body and especially the mouth imparts a repulsive smell, the vulva in

girls becomes inflamed and swollen by constant scratching brought on by the irritation of the anus by the parent worms lodged in the rectum, the child cannot walk without tottering, it becomes bed-ridden and very often parasitic dysentery, less frequently bronchopneumonia, closes the scene. Such is the progress of the disease when no medication has checked its march. I cannot fail to remember a case outside which I was called in to see. The patient, a girl of 13 years, was tossing on the floor, rolling about from side to side, dashing her head against the floor and yelling with excruciating abdominal pain. All the household was in tears and the girl's sufferings more appealing beyond endurance. A devil's play was suspected by the folk and my necromancy with the magical santonine drove out the devil the next day. People would not believe that I was no enchanter with satanic credentials.

Many children die from the fits or from chronic inanition due to gastro-intestinal catarrh. Scabies and abscess development all over the body are later complications in a vast number of cases. I have often seen cases of chronic catarrhal ophthalmia and buccal ulceration in these subjects. These concurrent pathological manifestations clear away after the successful treatment for worms. There is a very high death-rate from round worm infection in Malabar and the causes of infantile mortality as shown in the village vital statistics are invariably a gross misrepresentation, often due to want of expert examinations.

#### IN ADULTS.

Here the picture of constitutional wreckage is not so alarming as in the young. Loss of appetite with abdominal pains and nausea, often simulating chronic alcoholic gastritis, are the constant manifestations in adult patients. In them the symptoms and signs put the physician on the wrong track.

#### *How worms called for an operation for appendicitis.*

A woman, aged 22 years, was admitted in the Cannanore Municipal Hospital. She had a temperature of 102° F., a quick and feeble pulse, vomiting, constipation, tenderness over the right iliac fossa and a swelling at the same site. The right lower extremity was drawn up, there was severe pain complained of over the appendical area. Otherwise the woman was not nourished. In the night there was a vigour and rise of temperature to 104° F. The swelling increased and the suffering aggravated. An acute appendical abscess and formation was suspected. Early next morning the woman vomited two worms. This unexpected development and the resolution of the very acute symptoms put something fresh into our minds and a full dose of santonine followed by a saline purge cured the "appendicitis" quite miraculously. A good number of worms formed into a ball was passed out and every other accompaniment subsided. The tumor was due to a huddled up mass of worms in the cæcum; there was constipation from

the carrier thus formed, the pain was probably due to the tension on the gut wall or the worms piercing it, the vigour and the evening rise of temperature was due to intercurrent malarial infection, as was shown by the subsequent blood examination. Another case in my private experience was that of an adult patient which very closely simulated acute obstruction of the bowels. All the symptoms and signs were quite pronounced. A forced turpentine anema cleared the obstruction by bringing down a mass of worms. The number of worms that will be present in a host is always alarming. A child of 18 months once passed 90 mature worms before me and having thus delivered her enormous conception to the broad daylight of the earth, the poor thing very silently merged into the tranquil sphere of eternity. Thirty may be taken as the least number habitating a human host.

Cases of peritonitis following upon the passage of the worms into the peritoneal cavity or of asphyxia by obstruction of the trachea by worms climbing up the gullet and getting down the wind-pipe have never been seen by me. But instances of worms coming out through the nose were not seldom. I had occasion to take out three mature worms from the vagina of a girl three years old.

In Cannanore and even other places it is no uncommon thing to see the first three days of the puerperium of the lying-in woman marked with a rise of temperature. You may swear by the "Seven Gods" that the accouchement was scrupulously aseptic. A dose of santonine with a castor oil purge will clear your uneasiness. I even go to the extent of saying that a routine treatment for worms two days after the confinement is no questionable practice in Malabar. Pyrexia in association with round worms infection is no rare feature in children. The pathology of this may be explained by the theory that a sort of alimentary auto-intoxication from the catarrh of the bowels and the chemical and mechanical products of the animal activity of the worms therein, perverts the functions of the thermal centre in the corpus striatum.

Microscopical examination of the blood, though of no decisive value in diagnosis, is yet reflective of some important pathological features. As I stated already, the signs of secondary anæmia are present. Besides, there is a relative preponderance of the eosinophiles, as in infection by ankylostoma duodenale or tænia echiynococcus. The diminution in the number of the polymorphon is not often of a remarkable nature.

Now coming to *diagnosis*, I am inclined to think that one cannot experience much difficulty. The physical signs and symptoms do not betray us often. Microscopical examination of the stools is one's decisive resource. In a vast majority of cases attending the hospitals in Malabar, the ova of the ascaris appear in the stools. The technique of the examination is quite simple. A very small drop of the frothy stool is taken with a stick and put on a clean slide. A clean cover slip is put on it, as in preparing a fresh blood

film. It is better to remove the top of the condenser, so that you can get a wider pervasion of light on the stage. Examination is conducted with the  $\frac{1}{6}$ " lens. The morning stools are more productive. In Cannanore and other places, you can have no cause for repentance if your preliminary medication for a patient, especially a child, is directed against worms. Surely enough in 90% of cases, you are not on the wrong track.

The *prognosis* is almost invariably hopeful.

There is so far nothing novel in the *treatment* of these cases. In adults, a full dose of santonine with a few grains of sodii bicarb. and calomel in a single bed-time dose followed by a castor-oil purge in the morning forms the treatment. The simple details of the treatment are, to my judgment, to be carefully attended to. The powder should be taken at least two hours after supper and the castor-oil is best given at 5 A.M. It is prudent to give two ounces of the oil to an adult to ensure a complete evacuation. I have found that the subsequent administration of a mixture containing one drachm of Sodii Sulphas and five mins. of Tr. Nux Vomica to the ounce, three times a day, conduces to a radical cure. In places where round worm infection is prevalent one will do well to treat pregnant woman for worms once in a month. Care is often required in the treatment of young patients. Here the tender constitution of the young patient will very often revolt in the very expectant moment of your warfare against the foe. When the patient is very feeble, the aim of the physician is to bring about a gradual elimination of the enemy. The depressant effect of santonine is always to be borne in mind, especially when dealing with debilitated children of tender age. The treatment in such cases is carried out once in a week and continued for one month. My routine prescription for a child of one year has been as follows:—

Santonine	—	...	..	gr.	i
Sodii Bicarb		...	...	grs.	ii
Hydrarg. Subchlor.		...	...	gr.	i
Mel. depuratum		...	...	min.	v

to be mixed up well and made into a thick cream which is divided into two equal parts, one part being given at bed-time and followed by a two-drachm dose of castor-oil in the morning and similarly with the other half on the following night. The doses of santonine and calomel are regulated according to age. The advantages of this treatment are threefold. The honey in the cream gives such a sweet taste that the child takes the whole thing without the least reluctance. The creamy consistency of the medicine allows of its being placed on the tongue and being well mixed up with salvia is easily swallowed. Another advantage lies in the fact that, in the event of the child refusing to take

castor-oil—a circumstance which very often occurs—the calomel will act as a cathartic and will ensure a desirable alimentary flushing out and disinfection. The usefulness of this combination will appeal to your judgment when you know of a very trying case I had to deal with. The patient was a girl aged about 5 years. She was in a very bad state of health. There was diarrhoea, vomiting and pyrexia. Two worms had passed out in the vomit. I administered santonine with only some soda powder. In the morning she refused to take castor-oil; she would not have a drop of it. The people around the patient allowed the little domestic despot to have her own way, with the result that one of them came running to me at noon on the next day. I went to the place and saw my little patient in a critical state. She explained the circumstances to me; the child had not passed a single motion; her abdomen was distended. respiration was embarrassed and there was fever. The pulse was very frequent and quite feeble. The worms in the bowel had been killed by the anthelmintic administered on the previous night, but nothing had flushed them out. In the gut they lay in a state of commencing decomposition and septic absorption had taken place. The seriousness of the situation at once rushed in my mind, and my humble resources pointed out to me the desirability of giving a soap and water enema. The whole sewage canal was flushed out by this and a saline purge and there was immediate relief after the enema.

The prophylaxis of this malady should be the first thing to be arrived at. Attention to an uncontaminated water supply by the application of the principles of sanitary engineering in the construction of wells and houses, scrupulousness in the cooking of food-stuffs, strict avoidance of unboiled water and vegetables for drinking and eating purposes, improved means of sub-soil drainage, a very hygienic method of disposal of the excreta and attention to the propriety of maintaining a decent looking compound are among the most important features in prophylaxis. Personal prophylaxis consists in not allowing children to play about in the mud. Rich people should provide protection for the body of their children. The mother or the nurse should see that the hands and mouths of children are cleaned with warm water before the latter lay their hands on food stuffs. Scratching the anus and biting the finger nails afterwards is a nasty habit in some children which should be put a stop to by threats and even thrashing. More than all these, and the most far-reaching in its ultimate results, is the adoption of an intelligent and popular means of persuasion of the elements of personal and domestic hygiene among the masses. It is known and deplored that half or even more of the

number of deaths occurring in the villages of Malabar can be averted by adherence to a hygienic plan of life. These are places where the redeeming story of the rays of Western civilization has not yet penetrated the self-constructed barrier of inveterate ignorance, to dispel the expensive envelope of mental gloom,—a fact, which, it is fervently hoped, time will ignore and pack off into the dreamlands of oblivion and pre-historic antiquity.

## A Mirror of Hospital Practice.

### RUPTURED EXTRA UTERINE PREGNANCY. 5-6 MONTHS. LAPAROTOMY.

#### DELAYED CHLOROFORM POISONING ? RECOVERY.

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NAME of patient Mah O, age 36, sex female, caste or class Burmese, occupation bazaar seller, result cured, date of admission 23rd September, 1913, date of discharge 6th November, 1913.

*History.*—Married for 15 years, number of pregnancies, *nil*; number of children *nil*; number of miscarriages, *nil*; date of last confinement, *nil*; date of last miscarriage, *nil*; date of last menstruation, three days ago. Slight blood-stained discharge still present.

*Previous history.*—Three and-a-half months ago she felt pain in the left iliac region, which lasted for nearly a month. The pain was severe but unaccompanied by faintness or nausea. When the pain came on she noticed a swelling in the left iliac fossa, which has since steadily increased in size, though she has been free from pain up to 10 days ago. The pain that then came on has got steadily worse, and is now very acute and the swelling very tender. Has been regular in her menstruation, the last period occurred 3 days ago. Has never had any profuse vaginal hæmorrhage. Has no reason to think she is pregnant.

*Menstrual history.*—Age at first menstruation 17 years, regularity once in 4 weeks, quite regular; duration 3 days, amount in no way excessive, pain none.

*Inter-menstrual discharge.*—Character none.

*Functional disturbance of bladder.*—Has pain and difficulty in passing water. Rectum has pain on defæcation.

#### PHYSICAL EXAMINATION.

*General appearance.*—Well nourished, but looks anxious and ill. The breasts are enlarged and

the glandular tissue appears to be hypertrophied. No milk in breasts.

Temperature 100° F.

*Abdomen.*—There is a large, prominent, globular and smooth swelling of indistinct outline, rising out of the pelvis and extending upwards in the left flank as high as the 10th rib, and from there across the abdomen to the right as far as the umbilicus. The swelling appears to fill the whole pelvis, is fixed and very tender.

*Per vaginam.*—The swelling fills nearly the whole of the pelvic cavity, extending low down and obliterating the pouch of Douglas. The uterus can be made out slightly enlarged and pushed well over to the right side of the pelvis. The swelling is fixed, but elastic and gives the impression of semi-solid cyst.

The abdomen is generally distended and signs of commencing general peritonitis are present.

*Alimentary system.*—Tongue coated and somewhat dry, appetite *nil*, vomiting none, condition of bowels constipated, liver of normal size; not tender.

*Circulatory system.*—Pulse full and regular, 108 per minute, heart normal.

*Respiratory system.*—Breathing somewhat hurried, chiefly thoracic, lungs normal.

*Urinary system.*—Urine quantity, colour straw, special gravity 1014, albumen *nil*, reaction acid but not markedly so, sugar *nil*.

22nd September 1913. *Chloroform. Median Laparotomy.*—Incision about 7 inches long. The whole of the anterior aspect of the tumour was covered by congested and blood infiltrated omentum with greatly dilated veins. The omentum which was firmly adherent to the front of the tumour was removed, exposing a smooth walled cyst of a dark red colour. The pelvis was also seen to contain about 10 ounces of fresh blood. On examining the relations of the cyst, a small tear was found at the lower and left side of the tumour, from which blood clot was exuding. The upper and right side of the cyst was smooth and free, the lower and left part widely adherent to the left side of the pelvis and to the uterus which was incorporated into the front of the cyst wall. The rectum and pelvic colon was also incorporated into the posterior wall of the cyst. On introducing a finger through the rent in the lower part of the left side of the cyst, the wall which was as rotten as a wet blotting paper tore widely, exposing a large cavity full of blood clot and a placenta which was lying on the posterior and left wall of the cyst.

The placenta which was extensively thrombosed was rapidly stripped off and removed, and with it a 5-6 months' foetus. There was very free hæmorrhage from a large vein which from its position was thought to be the internal iliac vein greatly dilated. The bleeding was controlled by several long clips, but it was found impossible to