

kooso. Some prefer the first of these, while others prefer the second. In my hands, kooso has been decidedly the most efficient—that is, having failed with everything else, and having succeeded with kooso, it has naturally become the remedy with which I always begin the treatment. It is the dried flowers and immature fruit of the *Brayera anthelmintica*, a tree native to Abyssinia. It is given in the form of a powder, and the only objection to it is its bulkiness. The dose is laid down as a half to one ounce of the powder in half a pint of water. I prefer to give the larger dose, for it is harmless, except in pregnancy, and I am sure that failures are often due to the smallness of the dose administered. Kooso is said to have produced miscarriage; therefore, it should not be given to pregnant women.

Patients require some preparation before any remedy is employed. I always tell them to eat nothing from noon of one day until the next morning, when one ounce of kooso in half a pint of water is directed to be taken. If at the end of six hours no movement of the bowels has taken place, a promptly acting aperient, as a dose of oil, compound jalap powder, or elaterium, is taken, but generally kooso requires no purgative after it. This usually brings away the worm entire. Of course, you are never certain that you have the entire worm until you find the head. At the same time, it does not follow because the head cannot be found, that you have failed to remove it, for it is very small, and may have been lost in the discharges. As I have said, in the *tænia solium* the head is about the size of a small pin's head; in the *medio-canellata*, it is somewhat larger, and in the *bothriocephalus latus* it is still larger. If the head has not been removed, you may be certain that in a certain length of time the worm will grow out again. This varies from ten to sixteen weeks.

Instead of kooso, the resin which it contains, called *koosin*, may be given; but I have had no experience with it. The dose is 20 to 40 grains enclosed in a wafer.

The next remedy in efficiency is the ethereal extract of the rhizome of *Aspidium filix mas*, whose active principle—an oleo-resin—is extracted by ether. The preparation of the patient is about the same as for kooso. The dose is half a fluid-drachm to a drachm. The larger dose should be given. It is a dark, thick liquid, bitter, slightly acrid and nauseous. Instead of the ethereal extract of male fern, the oil may be given in a gelatine capsule, which is the best vehicle for these unpleasant oils. Six or eight hours later, a dose of purgative medicine should be administered. An important point to be borne in mind is the varying quality of these drugs, and that they deteriorate with age.

The next remedy in order of efficiency is the bark of the root of the pomegranate. This has been given in the shape of a decoction, about two ounces to the pint, and the dose is a pint. Re-

cently there has been introduced an alkaloid obtained from pomegranate, named pelletierine, in honor of the chemist, Pelletier. This is sold in a single dose, the price of which is, I believe, three dollars. When first introduced, it was vaunted as a "sure cure;" but the experience of practitioners in this city has not been uniform, and success has been by no means invariable. Very recently, however, I have known a case to have been successfully treated with pelletierine after all else had failed, including large doses of turpentine, and including pelletierine itself. When successfully used, the dose of pelletierine was given after twenty-four hours' fasting and no preliminary purgation. In fifteen minutes afterwards, one drachm of compound jalap powder was taken. In an hour and fifteen minutes, the entire worm, including the head, was passed. When pelletierine was unsuccessfully used, it was preceded by a day and a half fasting, during which two doses of castor oil were taken.

Kamala, the hairs of the *Rottlera tinctoria*, is said to be very efficient in tapeworm, but I have had no experience with it. It is given in doses of from one to two drachms suspended in syrup, repeated in eight or ten hours if it do not purge. It is purgative, sometimes drastically so. It may also cause nausea and vomiting.

Another remedy, which is an excellent one in this affection, is oil of turpentine. At the same time, it is apt to produce such unpleasant symptoms that it would be the last which I should use. The dose is from an ounce to two ounces mixed with twice that amount of castor oil.

The last remedy which I shall mention is pumpkin-seed. This was used very commonly some twenty years ago. It was the remedy which I always used until frequent failures induced me to give it up. There are two ways in which it may be given. Two ounces of the seeds may be crushed in a mortar with water, then strained, and the emulsion taken fasting, the patient having dieted the previous day. A few hours later, a brisk purge should be taken. Or the seeds may be made into an electuary, which is almost as pleasant as sugar candy, and often is about as effectual.

I should place these different remedies in the order of their efficiency as follows: kooso, male fern, pomegranate and pelletierine, kamala, turpentine, and, lastly, pumpkin-seed. I am inclined, however, to give pelletierine an early trial, in consequence of its recent successful use in the manner referred to.

I have already stated that it is important to know the variety of worm present for the purposes of prognosis and treatment. The easiest of these worms to dislodge is the *bothriocephalus latus*, because it has neither the hooklets nor the rostellum of the other varieties. The next in ease of removal is the *tænia medio-canellata*, which, although it has the four suckers, lacks the hooklets which give the *tænia solium* its firm anchorage. Of all the forms