

permanent thickening. These attacks may recur at varying intervals of weeks, months or years, and are often mistaken for malarial fever, occurring as they do in districts where malaria is almost always prevalent.

Elephantiasis is perhaps the most frequent pathological condition set up by filarial infection. In Samoa over 50 per cent. of the adult male population is affected. In most tropical countries it is not of so frequent occurrence, but is fairly common in all parts where the filaria Bancrofti is found.

In over 90 per cent. of the cases the lower limbs are involved, either one or both, or in conjunction with some other portion of the body. The scrotum is frequently involved, less often the mammae, vulva or localized portions of the arms, body or neck.

Chyluria, the result of the rupture of a varix on the walls of the bladder or about the kidneys is not a very serious condition, though it as a rule causes the patient a great deal of mental worry. It very frequently appears without any warning, though it may have been preceded by pain or aching in the loins and pelvis from the distension of the varix. The urine may be white, pink or even red, during a part of the day it may be quite normal; it coagulates or stands. The general health of the patient is not affected, and about the only inconvenience is the pain attendant upon the passage of clots which may form in the bladder. Occasionally these may cause retention.

Other forms of disease associated with this filaria are varicose glands of the groin and axilla, lymph scrotum, orchitis, chylous ascites, and chylous diarrhoea.

*F. perstans*.—This parasite has so far been found principally on the West Coast of Africa from Lagos to the Congo, and in Demerara. As the name indicates it has not a periodicity as has *F. nocturna*, but may be found in the blood at any time.

The infection is not as great as in *F. nocturna*, the average drop of blood not showing more than perhaps one to ten embryos. Indeed in some cases several drops may be examined before one is found.

The embryos are much smaller than *F. nocturna*, measuring only  $1/125$  inch in length. The worm narrows gradually from the anterior third to the tail, ending abruptly in a rounded, not pointed, extremity. It is devoid of a sheath. The head end, too, is distinctive; there is no hooked cephalic prepuce to be seen, but a retractile fang is easily observable, and is shot out and retracted at shorter intervals than the corresponding structure in *F. nocturna*. The movements of the embryo on the slide are very active, moving very rapidly across the field with a quick, snake-like movement, and travelling freely all through the preparation.

The parental forms were discovered by Daniels. They are slightly shorter than *F. Bancrofti*. The tail is distinctive, being incurvated with a slight notch in the chitinous covered tip.

Only a few adults have as yet been found. Their habitat has been the connective tissues at the root of the mesentery, behind the abdominal aorta, and beneath the pericardium.

No definite pathological lesions have been found associated with this parasite. Manson has conjectured it is the cause of the sleeping sickness