

**ON A HAEMATOZOON
INHABITING HUMAN BLOOD:
ITS RELATION TO CHYLURIA
AND OTHER DISEASES**

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On a Haematozoon Inhabiting Human Blood: Its Relation to Chyluria and Other Diseases by
Timothy Richards Lewis

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BY

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ON A

HÆMATOZOON
INHABITING HUMAN BLOOD:
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For many generations writers on medical subjects have maintained that the human blood during certain diseased conditions is invaded by parasites. The opinion most in favour has been, that these in all probability were in the form of worms; but, so far as I have been able to ascertain, it has never yet been satisfactorily demonstrated that this condition really existed.

That certain limited areas of the circulatory tract may become invaded by Entozoa has long been known: the portal vein, and the vessels in more or less direct relation with the intestinal canal, are the channels which have usually been thus affected; but the parasites found in these situations, such as the *Distoma hæmatobium*,

The belief in the existence of Human Hæmatozoa long entertained.

The Distomata hitherto discovered are too large to pass through the capillaries;

* Forming an Appendix to the Eighth Annual Report of the Sanitary Commissioner with the Government of India.

discovered by Bilharz in 1851, and a few other imperfectly described distomata, are far too large to pass through any but comparatively capacious blood vessels. The instances on record in which they have been found in vessels beyond these limits are few, and evidently accidental occurrences. None of these, therefore, can, I think, be justly described as 'Hæmatozoa' in the strict sense of the term.

The same remarks apply, with only very slight modifications, to the presence of Echinococci in the blood-vessels, a few young specimens of which, have, on rare occasions, been discovered (by Klencke and others) in the general circulation, but then only in vessels of considerable calibre.

It has also been inferred that the progeny of some Entozoa must be carried by the blood-current, as otherwise they could have not reached their destination so rapidly in the various distant parts of the body in which they have been found. That the *Trichina spiralis*, for example, during its earlier migrations, may be conveyed in this way, is, although strongly denied, I think not improbable. As their presence in the blood has not, however, been recognized, either in man or in animals, their sojourn in such channels, must, at all events, be of very short duration.

But that a condition should exist in which human blood should be infested by living active worms in either an embryo or mature state, to the extent hereafter to be described,

So likewise are Echinococci.

Probability of some parasites having reached the tissues in which they are found, by means of the blood-vessels.

The discovery of microscopic worms in great numbers in human blood.

had, I presume, scarcely been surmised—a condition in which they are persistently so ubiquitous as to be obtained day after day in numbers, by simply pricking any portion of the body, even to the tips of the fingers and toes of both hands and both feet of one and the same person with a finely pointed needle. On one occasion six excellent specimens were obtained in a single drop of blood, by merely pricking the lobule of the ear.

Towards the beginning of July of the present year, whilst examining the blood of a native suffering from diarrhœa, a patient at the Medical College Hospital under Dr. Chuckerbutty's care, I observed nine minute Nematoid worms in a state of great activity, on a single slide. On drawing the attention of my colleague, Dr. Douglas Cunningham, to the preparation, he fully coincided in my opinion that they were precisely the same kind as those observed by me more than two years previously (in March 1870), as being constantly present in Chylous urine.

In a report on the microscopic characters of choleraic dejecta published at the time, both separately and also in the form of an Appendix to the Sixth Report of the Sanitary Commissioner with the Government of India, I had occasion to allude to this condition of the urine in connection with some cells observed in it, which closely corresponded in appearance with cells constantly present in choleraic discharges, and the opportunity was taken of drawing attention to the Entozoon, which was at the same time figured and described.

Date of their discovery in the blood, and of their discovery in the urine.

A synopsis of the first case published.

For the sake of convenience it may be well to refer to this case again. The patient was a deaf and emaciated East Indian, about 25 years of age, under the care of Mr. R. T. Lyons at the General Hospital, and was kept under observation for a period of two months, during which time his urine continued to present a white, milky appearance, and yellowish-white coagula rapidly formed in the vessel into which it had been voided. When a small portion of the gelatinised substance was teased with needles on a slide, and placed under the microscope, delicate filaments were seen, partly hidden by the fibro-albuminous matter in which they were embedded, and which I at first considered to be scattered filaments of a growing fungus. After being watched for some time, however, they were seen to coil and uncoil themselves, so that all doubt as to their nature was at an end. I had opportunities of showing them on various occasions to several persons; and having perfectly satisfied myself that their occurrence was not accidental, nor yet the result of subsequent development in the urine, after the manner of the *Anguillulæ* which are so well known to develop in vinegar or starch-paste, I did not hesitate to draw attention to them as being the probable cause of the obscure disease known as "Chyluria."*

From this period I have paid considerable attention to the subject, and I desire to express the obligations I am under to Dr. Ewart, the Surgeon in charge of the Presi-

How and where subsequent cases were obtained.

* Subsequent observations in connection with this case will be found referred to further on—p. 46.