

Report on sleeping sickness / by Aubrey Hodges.

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REPORT

ON

SLEEPING SICKNESS,

BY

DR. AUBREY HODGES.

1902

2059

Jinja, Busoga.

April 1st, 1902.

SIR.

I have the honour to forward preliminary notes on the investigation of SLEEPING SICKNESS and other epidemic diseases.

These notes are naturally as yet only fragmentary, and anything they may contain beyond actual observation remains, of course, subject to alteration or revision at a later date, though I shall hope to be able to embody the bulk of them in my final report.

As it will probably be at least two months before I shall be able to submit my report, perhaps in the meantime a few particulars of results so far obtained may prove of use or interest in case investigations are being pursued in other parts of the Protectorate. In this case, indeed, I shall be thankful to receive a summary of any facts which may have been gathered, and which might furnish a guide to further enquiry into the seemingly complex causation of SLEEPING SICKNESS, and its connections, if any, with *Filaria Perstans*.

I have also the honour to forward two boxes of slides belonging to the London School of Tropical Medicine, in which I have replaced those which I have broken and added twenty-seven extra. All the slides are charged with blood smears from cases of SLEEPING SICKNESS.

I send also five bottles containing mosquitos collected from Jinja, Naniumbas, Banda (Kairanyas), Sigulu Island and Buvuma, and I have the honour to request that they may be transmitted to England for examination and indentification.

I have, etc.,

(Signed) *AUBREY D. P. HODGES, M.D., Lond.,*

Medical Officer Busoga.

The Acting P.M.O.,

Uganda Protectorate.

1902

I have the honor to forward herewith to you the
investigation of ELIOT'S SYNDROME and other subjects
concerning the same. These notes are intended as a guide to the
investigation of the subject and are not intended to be
a final report. I shall be glad to receive your views
on the subject and to discuss the same with you.

It will probably be of interest to you to know that
I have also received from you a copy of the
report of the investigation of the same subject which
you have kindly forwarded to me. I have also
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investigation of the same subject which you have
kindly forwarded to me. I have also received from
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same subject which you have kindly forwarded to me.

(Signed) ALBERT D. T. HOBBS, M.D., F.R.C.P.
Medical Officer, Singapore

The Librarian,
Singapore

SLEEPING SICKNESS REPORT

BY

DR. A. D. P. HODGES.



NOTE.—The expedition which is the subject of these notes has included the most important places along the north coast of Lake Victoria from Jinja to Nyala, and the chief Busoga, Buvuma and Kavirondo Islands.

My first aim has been to reach the outskirts of the epidemic area, where it appeared to me that the conditions especially with regard to *Filaria Perstans*, could most profitably be studied, and although I have not penetrated beyond this area (I am informed that the disease has already spread to Kiumu and Nandi) I have been able to gather facts in Kavirondo and its islands, which, if borne out by further enquiry, may prove to be of some importance. These facts relate to the presence in the blood of both sick and sound of *Filaria Perstans*, and would seem to emphasize the importance of immediate investigation, if this is not already in process, as to the presence of the filaria in the neighbourhood of the Government stations, especially near the outskirts of the Protectorate, and most specially near the Congo border and in the Nile Province, where, so far as I know, the epidemic has not yet been reported.

I should mention that the expedition has been much hampered by a condition approaching famine in all the districts visited, which made it necessary to carry all the rations required by the men. There has also been exceptionally rough weather on the Lake, which, with want of food, prevented my visiting the southern islands of the Lolwe group, which I was most anxious to do. I have just heard that my canoe, which left here yesterday, foundered near Lubas in a storm, 37 people being drowned.

NOTE II.—**DISTRIBUTION OF SLEEPING SICKNESS.** The disease is most prevalent from Lubas to the borders of Kavirondo, and in Buvuma and the Busoga Islands. In the neighbourhoods of Lubas, Bukonge, Naniumbas, Banda (Kairanyas) and in Buvuma many hundreds have died and many thousands are sick, and

the conditions become daily worse with the approach of famine. In Nyala and Sigulu Island there are also hundreds of sick, but there are fewer in the late stage of the disease, and the deaths, though numerous, appear to have been fewer. I could not hear of a single island where there were not many cases.

NOTE III.—HISTORY OF THE EPIDEMIC (NATIVE REPORT). The general opinion among the Busoga is that the disease came from Wakolis. The story at Wakolis is that a long time ago (1892) a small number of Masai (Wakwafi of Njemps) came and settled at Wakolis. These people had many sick, and at last determined on that account to return to their own country. They returned in batches (the last I believe left in 1896). About the time they were leaving the Busoga began to be attacked by a disease which they at first thought was Plague, but when they did not soon die, and they saw them nodding, they said "This is the disease the Masai had," and they suggest that it originated with these Masai or Wakwafi. It is strange, if this were so, that nothing has been heard of sleeping sickness in the Baringo District or Masai Land, but it would seem not improbable that the disease began in Busoga about that time. It should be remembered that the natives have hitherto hidden their sick from the eye of Europeans, and even now, in spite of its prevalence, all signs of the disease might easily escape a casual observer passing through the country. It is only when the poor creatures are stimulated by the hope of medicine or cure that the sad crowds emerge from their huts and enclosures or from unprovoked shelters in the jungle.

Mr. W. Grant, who was more or less at Wakolis about the time mentioned in the above story, does not think that the disease the Masai suffered from was Sleeping Sickness, but more probably Plague. Mr. Martin, with whom I believe the Wakwafi came to Wakolis, and who was in charge of the post there, will perhaps be able to throw some further light on the question.

There is another story, which Mr. Grant has heard, but which I myself have not met with, and which is denied by all the Chiefs I have asked, including Luba and Kairanya (now a prisoner), and that is, that the disease came from Budu along the west shore of the Lake. In that case Sleeping Sickness would almost certainly have been noticed among the Baganda or in Budu, and it is possible that this account may refer to Plague, with which the disease was at first, and is sometimes still confused.

There is an agreement that cases began to get numerous in Wakolis country after the Sudanese Mutineers passed through in 1897, and also about the time of Mr. Gimmel's big caravan (27th Bombay Light Infantry) in 1898.

The following is the duration of the sickness in various districts according to local report:—

Wakolis 5½ to 6 years; Buvuma 2 years 4 months (at least) Jinja, Lubas, Naniumbas 1 year; Nyala 9 months; Sigulu Island, 6 months.

NOTE IV.—SYMPTOMS. I have now collected notes of 403 cases of Sleeping Sickness. I was at once struck with the fact that

the enlargement of the superficial glands is general, and practically constant. Any one group of glands may be more affected or less affected than the others, There may be very slight enlargement in old people. I have been able to detect in these cases no specific rash, in fact the vast majority were without rash of any kind.

Harsh dry or scaly skin is common, especially in advanced cases. Itching and scratch marks are nearly always present, but they are also common among healthy natives. Scratches may be hidden or obliterated by recent inunction of the skin. The pruritus of Sleeping Sickness appears to be general, and is very persistent and troublesome, being to some extent comparable to the itching of jaundice. Tongue-tremor is very constant and early, and general muscular tremor is common. Tremor of the tongue is not very uncommonly, in young people, masked or replaced by jerky choreiform twitchings which sometimes extend to the mouth, face, and hands, and occasionally to the whole body. This seems chiefly to occur in the earlier stages, and the ages most affected coincide with those most affected by true chorea. No heart mischief has been detected. A peculiar thickness of speech, and sometimes stammering, has been noted in many cases, and might be of use as an aid to diagnosis, as it often occurs very early. Cerebral excitement has not been met with or reported in only a very few cases. It is uncommon to find pyrexia at a single examination. Emaciation is rare. Most patients complain of pains about the body and limbs, but the most constant pain is headache. Dulness or somnolence is invariably present as described in text books, except, of course, during cerebral excitement, but in early stages the patient's appearance during conversation, attention to objects of interest, or physical exertion may be normal for considerable periods. Muscular weakness is invariable and progressive.

NOTE V.—FILARIA PERSTANS. The presence of the filaria has been determined as shown in the accompanying table. The figures obtained from examination of cases from other parts of Busoga and Kavirondo agree broadly with those tabulated.

It will be seen that the results obtained in Kavirondo, on the outskirts of the epidemic, differ widely from those obtained in Busoga, the centre, though even in the former the filaria is present in a slightly larger per centage of the sick than of the sound. It will be noticed also that Filaria Perstans is less commonly found, in the peripheral circulation at any rate, in young children than in older people and adults, both in Sleeping Sickness and otherwise. Further it would seem that the younger the child the less likely it is to find the filaria, and I have not hitherto been able to discover either Sleeping Sickness or Filaria Perstans in a child fed at the breast. But it is the custom of the mothers to feed their infants at a very early age, even three months, on bananas, fish, or "whether they have themselves," including, of course, water.

Although the comparative absence of Filaria Perstans from the blood smears taken from the Wakavirondo is very striking it would perhaps be hasty to draw conclusions therefrom as to the association of the filaria with Sleeping Sick-

Table showing frequency of Filaria Perstans.

DISTRICT, &c.	Sleeping Sickness Cases.		F.P. present.	Per Cent.	Sound Cases.		F.P. present.	Per Cent.
Jinja ...	Total	11	9	81.8	Total	66	41	66.1
Busoga ...	under 7 years	3	1	33.3	under 7 years	11	1	9.0
	over 7	8	8	100.0	over 7	51	40	78.4
	Baganda Police	0	0	0.0		40	26	65.0
	Prisoners	6	6	100.0		38	32	84.2
Lubas ...	Total	200	187	93.5	Total	45	38	84.4
	under 7	21	15	71.4	under 7	11	7	63.6
	over 7	179	172	96.0	over 7	34	31	91.1
Naniumbas	Total	41	34	82.9	Total	12	10	83.4
	under 7	12	7	58.3	under 7	none	obtained for	
	over 7	29	27	93.1	over 7	exa	mination.	
Buvuma ...	Total	45	41	91.1	Total	58	44	75.8
Bayuma ...	under 7	2	2	100.0	under 7	none	obtained for	
	over 7	43	39	90.7	over 7	exa	mination.	
* Baganda		0	0	0.0	Total	28	22	78.5
					under 7	6	1	16.6
					over 7	22	21	95.4
Nyala ...	Total	33	3	9.0	Total	50	1	2.6
	under 7	5	2	40.0	under 7	4	0	0.0
	over 7	28	1	3.5	over 7	43	1	2.3
Sigulu Island	Total	45	3	6.7	Total	52	2	3.8
	under 7	4	0	0.0	under 7	10	1	10.0
	over 7	41	3	7.3	over 7	42	1	2.3

* Among about 400 Baganda resident in Buvuma for 2 years 4 months there has been only one case, which was fatal.

ness, since the conditions which determine the presence of the embryos in the peripheral blood are at present entirely unknown.

NOTE VI.—Mosquitos, ETC. I have been able to collect samples of Mosquitos from most of the places visited. They include several kinds of anopheles and of culex. The most common and most numerous of the culicidae, which I found at all places, is, I believe, a panoplites closely allied or identical with *P. Uniformis*. I have observed many of these insects everywhere to be infected with a minute parasite resembling a tick. * Except at two camps no other mosquitos were numerous. A small blood sucking fly called by the natives "bwa" is very prevalent and troublesome in the districts adjoining the Lake near the Nile, but I have not been able to find it elsewhere.

NOTE VII.—THE INFECTION. From general observation of the epidemic and its extreme prevalence near the shores of the Lake and in the islands it would seem probable that the infection, whether it be mature *Filaria Perstans* or no, is derived either from the water or from something connected with it, having been carried to it either in the embryonic or mature stage by some mosquito or other blood sucking insect. It is difficult to imagine an infection pervading a vast body of water like Lake Victoria, though of course it might inhabit the swamps and pools connected with it. Also the people who get their water from sources which would seem particularly unlikely to carry organic infection, such as the running stream of the Nile, do not seem to be in any way immune. I noticed that most of the people from Bukaleba Hill and from Luba's shamba below whose blood was examined derive their water supply from a spring half way up the hill, perhaps $1\frac{1}{2}$ or 2 miles from the Lake, the water from which must run some distance under ground and be well filtered, and is drawn as it issues from the rock or from a tiny rock pool into which it immediately falls, and which is not stagnant, but partly overflows and partly empties between the crevices of the rock. Yet *Filaria Perstans* was almost universally found in these cases, and Sleeping Sickness was extremely prevalent.

It seems to me at present at least possible that the extensive traffic in fish, especially smoked or dried fish which is carried from the coast and islands over the greater part of Usoga and Kavirondo, may be in some way connected with the spread of the epidemic. The Busoga scarcely ever cook their (animal) food thoroughly, if at all, and prefer it decomposing. The Kavirondo people seem to be rather more careful in cooking. Any information from other parts of the Protectorate as to the traffic in or consumption of fish, the habits of cooking and the sources of water supply, whether from within the epidemic area or not, would be most interesting and acceptable.

Taking native report as approximately correct, the extremely gradual spread of the epidemic during its first few years seems worthy of note in this connection. The severe famine which began in the latter part of 1899, and the frequent periods of

* I have also seen *Culex Fatigans* (?) and one anophela (species unknown) infected with this tick.

scarcity since, have probably had something to do with the recent acceleration of its progress.

NOTE VIII.—OTHER EPIDEMICS. A severe epidemic of small pox has evidently swept over Busoga and Kavirondo, and here and there cases still linger, especially in Kavirondo, but they are nowhere numerous along the coast and in the large island of Sigulu there are none. In Buvuma there are still many cases and I vaccinated a number of people there, and also left a supply of vaccine at the Roman Catholic Mission after having shown the Fathers there, who were anxious to learn how to vaccinate.

There are said to be a good many cases of Plague in Buvuma, but I could get only vague directions as to where they were and did not succeed in seeing any. It is not improbable that they are driven or hidden away in the jungle. Unfortunately the head chief was away. I have seen one or two so called cases of Plague in Busoga which proved to be Sleeping Sickness with rather prominent glandular enlargement. All cases of so called Plague which I have seen formerly have turned out to be cases of glandular enlargement or bubo from causes other than Plague.

NOTE IX.—I hope on my next expedition to follow the old caravan road at least as far as the Sio River, so as to observe the people living inland at approximately the same time as those on the corresponding coast. I should like then to go north as far as Gabla's to examine the conditions obtaining along the Nile, and also some of the islands. A journey into Bukedde away from the Nile may also prove necessary.





