

The Symptomatology and Treatment of *Trypanosoma Congolense* Infection of Canines.

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THE dog probably shows best of all the animals the effect of *T. congolense* infection. The cases on which observations were carried out were one case of natural infection and several cases produced by the inoculation of this strain of trypanosome from dog to dog or from sheep to dog, the sheep having been infected from the original natural case. In every case the disease in the dogs could be classified as peracute except when the course was interfered with intentionally by the use of drugs.

The incubation period when judged by the first elevation of temperature, was as early as 6 days, and by the appearance of the parasites in the blood smears also 6 days. Depression which comes on suddenly is marked, the dog passing from a state of vigour and liveliness to one of depression within a day. This change is particularly noticeable in vicious dogs which, on the onset of depression, permit free and safe handling. Inappetence appears simultaneously. Salivation is present in most cases. About the same time the faeces show changes in consistency and colour, becoming softer and reddish or blackish. Changes in the faeces were more marked in those cases in which the course was longer, i.e. in the more chronic cases. In the peracute cases in which the course from the time of infection to death did not at times exceed 16 days, the faecal changes were not conspicuous. It would appear that the establishment of haemorrhagic changes of the alimentary canal to which the variation of colour of the faeces is due, depends on the occurrence of the less acute condition. In the acute cases ulcerative stomatitis is present, the lesions of which are particularly evident on the floor of the mouth and along the borders of the tongue. These lesions bleed easily. Definite eye-lesions are also present in some cases. These were in the form of conjunctivitis and keratitis with symptoms of photophobia, lachrymation and oedema of the peri-orbital and even lower facial regions. In such cases blindness is present but, if suitable trypanocidal treatment be carried out, there results a complete recovery with no discernible residue of the eye-lesions even though no local treatment be undertaken. The rapid and complete recovery which results from

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the administration of trypanocidal drugs indicates, without any doubt, that the cause of the eye-lesions is the trypanosome. In one somewhat chronic case an anasarca was present, the entire body presenting a swollen appearance and pitting on pressure. This condition disappeared with suitable treatment. The temperatures do not show the exacerbations and remissions to the same extent as in the ruminants. A chart (Chart I), which is of an acute case, is submitted. The most conspicuous features of *T. congolense* infection of dogs are haemorrhagic gastro-enteritis, the ulcerative and at times gangrenous stomatitis and pharyngitis, the oedema and the eye-lesions. The trypanosomes were always easy to find in blood smears.

Quite remarkable were the results obtained not only in the production of sterilisation but also in rapid alleviation and entire disappearance of the often advanced and acute symptoms by the use of Antimosan. The sterilisation was proved in every case not only by the disappearance of the trypanosomes and the return to normality of the temperatures, but also by re-infection and subinoculation into other dogs. In these tests the dogs were re-infected to prove sterilisation and again treated. No decrease in efficiency of treatment was noted as a result of this procedure. On account of this repetition it is proposed to tabulate the details of each dog on a separate table. Table I gives the details of dog 985.

TABLE I.

T. congolense Dog. 985 Weight 24 Kg.

| Date of infection. | Date of first treatment. | Date of second infection. | Date of second treatment. | Date of third infection. | Date of third treatment. | Date of fourth infection. | Date of fourth treatment. |
|--------------------|--------------------------|---------------------------|---------------------------|--------------------------|--------------------------|---------------------------|---------------------------|
| 24/8/31 | 5/9/31 | 2/10/31 | 31/10/31 | 21/12/31 | 31/12/31 | 18/2/32 | 9/4/32 |

This dog died after the last treatment which was applied when it was *in extremis*. After each of the above treatments no trypanosomes were found in blood smears which were made daily and the temperatures were normal. The disease showed a definite tendency to become more chronic and consequently the period between infection and treatment could be lengthened during the progress of the experiment. The symptoms of the disease as the peracuteness decreased became much more evident. Consequently the results of treatment were more striking as the experiment progressed. Figures 1 (*a*) and 1 (*b*) of this dog taken before and after treatment illustrates the effects of treatment at a time when the symptoms were definitely established.

Table II gives the details of dog 989.

TABLE II.

T. congolense. Dog 989. Weight 21 Kg

| Date of first infection. | Date of first treatment. | Date of second infection. | Date of second treatment. | Date of third infection. | Date of third treatment. |
|--------------------------|--------------------------|---------------------------|---------------------------|--------------------------|--------------------------|
| 5/9/31 | 21 9 31 | 21 10 31 | 2, 12, 31 | 29, 12 31 | 19/2/32 |

This dog died 10 weeks after the last infection, no treatment having been given. The course in *T. congolense* infection in the dogs which did not receive the above type of infection-treatment manipulation was always short. There was thus a great lengthening of the course in dog 989. The first treatment failed. In subsequent treatments the dose of Antimosan was increased.

In the experience on these two dogs the Antimosan failed to sterilise only once out of six treatments given with one treatment doubtful in the case of dog 985 which died before it could be determined whether it was sterilised or not. The dose of Antimosan in all the treatments for dog 985 was 0.025 gm. per Kg. of live weight and for dog 989 it was 0.017, 0.029 and 0.046 gm. per Kg. The above experiments are interesting also for the fact that there appears to be no sustained prophylactic action of Antimosan, re-infection being possible as early as 27 days after treatment.

Fig. 1 (a).



Dog 985.

T. congolense infection.
Before treatment.

Fig. 1 (b).



Dog 985.

T. congolense infection. After
treatment. Sterilization.

