Paper No. 31.

HORSESICKNESS IN EGYPT AND ERITREA.

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1. Why horsesickness should receive attention from all pathologists, especially those on the Continent of Africa and the health authorities of the various countries of the Continent.

2. Short historical and geographical sketch of the sickness and its unexpected appearance in Egypt.

3. Progress of horsesickness in Egypt; its chief periodical dates; its propagation and the death-rate among infected animals.

4. Clinical forms observed in Egypt in the various equines, compared to those noticed in the Colony of Eritrea and those normally found in South Africa.

5. Anatomical-pathological lesions ordinarily found on equines which have died of this sickness in Egypt and in Eritrea.

6. Secondary infections of a bacterial and protozoal nature which often complicate the progress of horsesickness and at the same time prevent its diagnosis.

7. Clinical, anatomical-pathological, and microbiological observations on which we have based our diagnosis of horsesickness during our first researches unreliable as regards the sickness.

8. Susceptibility of the various kinds of equines to the virus of horsesickness. Which are the animals, in addition to equines, which can naturally or artificially be infected by it, even in its latent state, and may therefore be considered to be carriers, i.e., capable of propagating the sickness in question at a distance?

9. Which are the means and ordinary ways of infection? May one, in every case, exclude contagion?

10. Can the hides and other products of the animals in their fresh state be considered as a vehicle capable of causing directly or indirectly new cases of the sickness?

11. Undoubtedly the agents of transmission of horsesickness should be sought for among the hematophagous ectoparasites and especially among those which fly by night. Which are the invertebrates which up to date have been accused of propagating this sickness in the various countries where it has made its appearance?

12. In view of the strict epidemiological relations (influence of altitude, nature of the country, seasons, meteorological conditions, etc.) observed in Egypt and Eritrea between malaria in human beings (and particularly the tropical and summer-autumnal form) and horsesickness, until proof to the contrary has been obtained, the anopheles mosquito must be considered to be the transmitter of the last-mentioned sickness in the said regions.

13. How and where is the virus of the horsesickness preserved during the epizootiological intervals, particularly in regions in which, as in the case of certain localities in Eritrea, there are no animals of the equine race during long periods?

What importance may be attached to the following as possible reservoirs of virus?

(1) Cured horses, or horses infected in a latent manner, in addition to those which are sick.

(2) Animals of other species, either domesticated or wild.

(3) Hematophagous arthropods, especially ticks and other insects.

(4) Centres, and especially muddy and damp places.

14. The combating of horsesickness—therapeutically; passive and active immunization; general preventive measures.

15. What results have been obtained with the various therapeutical systems which are at present known, and particularly:

(*a*) with the ordinary or symptomatological therapeutics;

(*b*) with chemotherapeutics;

(*c*) with serotherapeutics and hemotherapeutics?

16. Has passive immunization (sero-prophylaxy) always been found inefficacious, even when strong doses of the immunizing serum were given?

17. With regard to active immunization, or vaccination, it is necessary to ascertain:

(*a*) which is the most practical and most efficacious method of immunization;

(*b*) the extent of the losses of animals which have died owing to active immunization;

(*c*) how do equines behave which are treated phophylactically for natural infection, and how long, as a rule, is the period of immunity—or longest resistance—ascertained by artificial means?

(*d*) what are the actual costs per animal treated, and is it always economically possible to follow this treatment?

(*e*) how is active immunization carried out at present? That is to say, is serovaccination, in which serum and virus in undiluted form are used, still practised everywhere and particularly in certain countries as in Egypt, where, owing to the uniform nature of the country, the abundance of equines, and the impossibility of sending them away, the infection in question may assume an epizootic form and spread over a vast expanse of the country?

18. General prophylactic and health police measures intended to prevent the growth and spread of horsesickness.

Efficacy of these measures in practice in relation to special local and social conditions of the country where they are enforced. Practical results which may be obtained in combating the sickness with:

(*a*) isolation of sick or suspected equines;

(*b*) mechanical and clinical protection of susceptible animals against attacks of the ectoparasites which transmit the disease;

(*c*) transference of susceptible equines to the high veld and generally to localities which are naturally free from the disease;

(*d*) destruction of sick or strongly suspected animals;

(*e*) disinfection against virus and especially against insects.

19. Measures by the Health Police employed by the Veterinary Service of the Egyptian Government and results obtained.

20. Which are the rules, which, in accordance with the knowledge, albeit limited, which we possess regarding the epizootiology of horsesickness (nature and resistance of the virus, agents of transmission of the sickness, vehicles of infection, etc.) should be laid down as the General Principles of the International Veterinary Health Police in order to prevent the infection spreading from one area to another, especially areas on the Continent of Africa?