

and produce embryonated eggs. These reach the lumen of the intestine only when an opening into the lumen is later developed. This is the only known means by which the eggs may reach the outside world and continue their development. This phase of the life cycle of *Spirocerca sanguinolenta* within its definite host is strikingly different from that of all other nematodes for which this part of the life cycle is known.

¹ Schwartz, B., *Proc. U. S. Nat. Museum*, 1926, lxviii, 5.

² Manson, P., *China Customs Med. Reports*, 1877, xiii, 24.

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Specific Dynamic Action of Food and Blood Coagulability.

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There occurs a marked shortening of the blood clotting time during the absorption of mixed meals. We have found this to be due only to the protein fraction of the foods, and to be intimately associated in time and degree with the specific dynamic action of this type of foodstuff.* Pure carbohydrate or fat meals produce little or no change in either the blood coagulability or basal metabolism. Glycocoll taken *per os* causes the same changes as does a protein meal. Strenuous exercise acts similarly.

The increased coagulability of the blood is evident in plasma divested of all platelets, but is more striking when platelets are present. We believe the change to be an increased reactivity of the clotting factors in both platelets and plasma, probably correlated with the greater cellular activity occurring throughout the body, which constitutes one part of the specific dynamic action of proteins.

The important clinical application of these facts lies in their relation to thrombosis—post operative, post partum, and following such inflammatory diseases as pneumonia, typhoid fever, etc. In all these conditions the tendency to thrombosis appears during convalescence, usually shortly after the patient has begun to partake of a full diet. Also during this convalescent stage the blood platelets are considerably increased in number, so that the coagulative phase

* Full details of the work will appear in the *Chinese Journal of Physiology*.

following protein intake would be even more striking than in normal individuals. The investigation is continuing along these lines.

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**Peripheral Lesions Produced by *L. Donovan* and Allied
Leishmaniae.**

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Gonder,¹ Laveran,^{2, 3} and Sergeant⁴ have reported peculiar lesions of the extremities, tail, scrotum, nose and ears in white mice inoculated intraperitoneally with recently isolated cultures of *L. tropica*. Sergeant⁴ was unable to produce such lesions with cultures beyond the 50th cultural passage.

Bramachari⁵ and others in Calcutta have reported cases of Kala Azar treated with antimony and apparently cured, in whom there developed later, nodules in the skin of the face, upper extremities and trunk, in which leishmaniae were found and from which they were cultivated. The spleen, liver and blood stream in these cases were free from leishmaniae. Bramachari has called this complex "dermal leishmanoid". Acton and Knowles⁶ reported a patient, diagnosed clinically as *xanthoma tuberosum multiplex*. A leishmania was cultivated from the lesions.

The present authors worked, in part, with cultures obtained from Drs. Nicolle and Anderson of Tunis, who have had them under continuous artificial cultivation for varying periods up to nearly 15 years. These cultures comprised *L. donovani* (*L. infantum*), strains KA and Sh, *L. canis* ("kala azar canin") strains x and X, and *L. tarentolae* ("leptomonas de gecko") from the gecko. All of these strains originally produced visceral lesions only. When these cultures were inoculated intraperitoneally into Chinese striped hamsters (*Cricetulus griseus*), the infections were visceral at first, with enlarged spleen and liver and with leishmania fairly abundant in the smears from the spleen, liver, bone marrow and heart blood. After a lapse of from two months to over a year from the time of inoculation, bilaterally symmetrical lesions began to appear, in the following order: (1) swellings of the carpi and tarsi extending later to the feet, including the digits; (2) swelling of the posterior half of

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