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Route of Migration of Spirocerca Sanguinolenta in Experimentally Infected Dogs.

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The Asiatic hedgehog, *Erinaceus dealbatus,* in the Peiping area is frequently infected with the third stage larvae of *Spirocerca sanguinolenta* encysted in omentum and mesentery as pointed out by Faust,[1] who infected experimentally dogs and cats by feeding them with these larvae and described the order of their migration in the animals as follows: Excystment in stomach cavity; penetrating stomach wall; passing into gastro-epiploic and portal veins; passing through hepatic capillaries, right heart, pulmonary capillaries and left heart; arriving in, and attaching themselves to the intima of, lower thoracic and upper abdominal aorta; migrating upward and finally settling in the wall of upper thoracic aorta. The part of the migration route within the aortic wall was described by Hiyeda and Faust.[2]

Being not completely convinced that the larvae can pass through 2 sets of capillaries whose calibers are much too small to provide an easy passage for them, and that they can penetrate the aortic wall in spite of the rapid blood flow in the aorta, we repeated Faust's feeding experiment and obtained the following results:

Twelve young dogs were each fed with 270 to 400 living encysted larvae. The dogs were killed by ether from 2 hours to 6 weeks after the feeding, and the organs, including the vessels of the stomach and the aorta are examined macro- and microscopically.

Our study shows that the larvae quickly excyst themselves in the stomach cavity and penetrate the stomach wall. After reaching the serosa they invade the arterial wall and migrate along the gastric and coeliac arteries, then the upper abdominal and the lower thoracic aorta and, finally, they reach the upper thoracic aorta which is their final habitat. The presence of larvae in the gastric and the arterial walls results in marked necrosis, acute inflammation, hemorrhage and formation of linear abscesses, all of which heal rapidly after the parasites have wandered on.

To determine whether the larvae can pass through the hepatic

[1] Faust, E. C., PROC. SOC. EXP. BIOL. AND MED., 1927, **25**, 192.

[2] Hiyeda, K., and Faust, E. C., *Arch. Path.*, 1929, **7**, 253.

and pulmonary capillaries, 200 actively motile larvae, dissected out from the cysts and suspended in dogs' own blood, were injected respectively into one lung of one dog and the liver of another, everything being kept at body temperature to prevent the coiling up of the larvae. The blood coming out of these organs contained not a single larva, but in the lung and the liver mashed and digested for 3 to 4 days in 1% pepsin solution, 148 and 135 live larvae respectively were recovered.

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Treatment of Dirofilariasis Immitis with Concentrated Fouadin.

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Dirofilaria immitis, a viviparous filarial worm living in the right chambers of the heart, the pulmonary artery and its branches, is very prevalent in China, 7.7% of dogs in Canton and 27%* of dogs in Peiping being infested. No cure for the parasite was known until Itagaki *et al.*[1] and Wada[2] reported some success by using sodium antimony tartrate and neostibnal respectively. "Fouadin", a proprietary antimony compound was found to give highly satisfactory result by Philipp[3] and by Underwood and Wright,[4] who gave it a very thorough trial. Hays[5] also reported favorably on a double salt of antimony. Since the salts of antimony have given promising therapeutic result, the authors began in the winter of 1934 to test the efficacy of another complex antimony compound called "Concentrated Fouadin"† against this worm. A preliminary notice of the results is here given.

As subjects of experiment, naturally infected dogs were em-

* From the records of Physiology Department, Peiping Union Medical College, Peiping, China.

[1] Itagaki, S., and Makino, R., *J. Japanese Soc. Vet. Sci.*, 1927, **6**, 1.

[2] Wada, K., *Scient. Rep. Gov't Inst. Infect. Dis., Tokyo Imp. Univ.*, 1927, **6**, 525.

[3] Philipp, F. G., *China J. Sci. and Arts*, 1931, **14**, 42.

[4] Underwood, P. C., and Wright, W. H., *J. Parasit.*, 1932, 180.

[5] Hays, J. M., *Vet. Med.*, April, 1933. Original not seen.

† Contains "11% Antimony III—pyrocatechin—disulphonate of sodium and calcium" supplied by 'Bayer'.