

1944

## Prenatal Ascarid Infection

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**3****A Case of Multiple Foreign Bodies.**

On Jan. 11, 1944, a 1-year-old, black Percheron mare was admitted to the Stange Memorial Clinic. The anamnesis volunteered by the owner was incomplete in that the etiology of the condition was unknown. Apparently, 3 days previously the horse had returned from the field with an injury located on the posterior medial side of the left thigh. At the time of entrance into the clinic, the wound was exuding a copious amount of purulent material, and a slight swinging leg lameness was being exhibited which was probably secondary in nature. Swelling and edema existed between the wound and the hock joint.

The animal was restrained in the stocks to facilitate an undisturbed clinical examination. The area around the injury was cleaned and shaved, and the wound was explored with a blunt-pointed probe. The investigation revealed that the wound extended in a dorsal anterior direction for a distance of about 8 in. Further probing indicated that a foreign body was present in the depth of the wound.

**Removal**

The operator next attempted removal of the foreign body with a forceps. After several attempts, 2 rather large splinters were removed. Their appearance and structure suggested that they might have been broken from a tree limb. The wound was then irrigated with liquid bipp. The tail was wrapped with gauze to prevent it from contaminating or irritating the wound. Fifteen-hundred units of tetanus anti-toxin were injected subcutaneously in the neck region, and the animal was retired to its stall.

Routine treatment for the next 4 days consisted of cleaning the wound with potassium permanganate (1:3000), and irrigating it with liquid bipp. This treatment, however, was not very successful, as the purulent exudate continued. No evidence of healing was suggested by the appearance of the wound.

Re-examination was in order, and the operator again explored the puncture

wound. This time 3 more splinters were located. They were removed from their obscure lodging place which angled in an anterior ventral direction from the inner end of the original wound. X-ray pictures were then taken to assure that no more foreign bodies were present.

Again the wound was routinely treated with potassium permanganate (1:3000) and liquid bipp. Exudation soon stopped, the swelling disappeared, and granulation tissue grew into the wound. While in the clinic the horse was periodically administered sulfanilamide per os as a prophylactic measure against generalized infection. On Jan. 25, 1944, the patient was discharged.

—Virgil M. Reinhart, '44

**4****Prenatal Ascarid Infection.** Many cases of ascarid infection of prenatal origin have been diagnosed at the Stange Memorial Clinic. One such case, typical of many, is picked at random for discussion.

On Dec. 30, 1943, a male Cocker Spaniel, 7 weeks old, was admitted to the clinic to be examined for intestinal parasites. A fecal examination was made and *Toxocara canis* ova were found. The age of the puppy suggested prenatal infection with the parasite. A 000 capsule (approximately 1 cc.) of a mixture of 42.3 per cent normal butyl chloride and 57.7 per cent castor oil was administered. The dog was discharged the same day.

The pathogenesis of prenatal ascarid infection is rather interesting. The eggs of the parasite are ingested by the dam. These eggs hatch when they reach the intestine of the animal. The larvae which are released then burrow their way into or through the intestinal wall and from the intestine they travel to the liver either via the blood stream or by migration through the peritoneal cavity. The blood stream carries them from the liver to the pulmonary capillaries where the majority of the larvae are stopped and given an opportunity to escape into the pulmonary alveoli. While in the lungs, they grow and

moult. The parasites then migrate into the lumen of the bronchi to be coughed up and swallowed. They pass into the intestinal tract and become adults in 8 to 9 weeks.

Not all of the larvae coming into the lungs may be stopped in the pulmonary capillaries. A few may slip through the lungs into the general circulation and be carried to such organs as the spleen, kidney, or the pregnant uterus. Upon reaching the uterus, the larvae can pass from the capillaries of the maternal placenta to the capillaries of the fetal placenta, and be carried to the embryonic lungs. The larvae will then migrate as in the adult finally lodging in the intestinal tract of the fetus, there to mature and lay eggs.

In an extended survey conducted by Dr. M. T. Sloss at the Stange Memorial Clinic, some interesting figures have been compiled. Of the 67 parasitisms in pups under 4 months of age seen in the course of 1 year (1938), 51 were infected with either *Toxocara canis* or *Toxascaris leonina*. The distribution of these 51 infections is shown in the following table.

<i>Toxocara canis</i>		<i>Toxascaris leonina</i>	
Age	cases	Age	cases
4 weeks	1	4 weeks	1
5 weeks	14	8 weeks	4
6 weeks	1	12 weeks	14
7 weeks	4	16 weeks	9
9 weeks	1		—
10 weeks	2		28
	23		

Prenatal infection has definitely been proved in the case of *T. leonina*, but has not been so shown for *T. canis*. However, it is theorized that the 8 or 9 weeks required for the ascarid larvae to mature in the adult intestine are also needed for them to develop in puppies. Assuming this to be true, when an ascarid infection is found in any pup under 2 months of age, it should be assumed that the animal was infected prenatally.

The only way to prevent this prenatal infection is to worm the bitch before or

soon after mating, and keep her freed of parasites throughout the gestation period.

—J. M. Gooch, '44

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### **Clostridium Welchii in Mastitis.**

In the practice of Dr. B. B. Palmer, I.S.C. '11, of Wayzata, Minn., a few sporadic cases of an unusual mastitis occurred which had not previously been amenable to treatment. Death occurred soon after the onset of symptoms. On Nov. 7, 1943, another of these cases was brought to the attention of Dr. Palmer.

The patient, a 7-year-old purebred Guernsey cow, had been fresh 6 weeks. The evening before the veterinarian was called, she gave 17 lbs. of milk and appeared quite normal. The next morning one quarter of the udder was hard and swollen; the remaining quarters gave 6 lbs. of milk. The animal was seen by the veterinarian at 8 a.m. at which time the temperature was 103° F., the appetite small and no fluid could be obtained from the affected quarter. A diagnosis of mastitis was made. Treatment at this time consisted of 900 gr. of sulfanilamide per orum. At 6 p.m. the cow was again observed. An extensive swelling had begun to form on the underline just anterior to the udder. A fulminating mastitis was present; the prognosis was unfavorable. A sample for bacteriological examination was obtained from the affected quarter and sent to a laboratory.

The next morning, crepitation of the skin over the entire abdomen revealed the presence of gas in the subcutis. The milk flow had diminished to 4 lbs. per milking from the 3 quarters remaining functional. The bacteriology laboratory reported finding a pure culture of *Clostridium welchii*. Treatment was then changed to sulfathiazole sodium sesquihydrate, 25 Gm., administered intravenously in 500 cc. of sterile water. Sulfathiazole, 300 gr., was given per orum that morning and repeated in the afternoon.

The morning following the revised treat-