An Unusual Case of Coenuriasis with Bilateral Cerebral Cysts

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INTRODUCTION

Although Coenuriasis in cattle is referred to in textbooks, it is less common than in sheep, and is possibly not considered in the differential diagnosis of nervous disorders of cattle in most areas of the United Kingdom. Coenuriasis is the disease caused by invasion of the brain and occasionally the spinal cord by the cystic larval stage of taenia multiceps, a tapeworm of the dog and fox. The localised space-occupying lesion of the CNS usually results in death of the host unless treated surgically (THOMAS, I. 1989-90; 1991).

MATERIALS AND METHODS

A 2 year old Limousin heifer was presented with slowly progressive nervous signs which had begun when she was 18 months old. She became dazed with a vacant expression and tended to stand still for long periods with the head pushed against a wall. (Fig. 1). On being moved from this position, circling continued until she became trapped in a corner. Careful consideration of the history and clinical observations, made on more than one occasion over a period of time to appreciate progression of signs, provided a sound basis for clinical diagnosis of chronic coenuriasis.

The author applied the tests used by Skerrit and Stallbaumer (1984) in sheep to aid in the localisation of the coenurus (Tables 1, 2 & 3). The hopping test was done by lifting one forelimb and causing the heifer to pivot on its hind legs. The proprioceptive placing test was done by placing wooden board under each foot in turn which was pulled slowly laterally, therby abducting the limb. The point at which the foot was picked up and restored to its normal position was noted and compared with the other limbs.

The surgical anatomy, site of incision and full description of the surgical treatment are described elsewhere (THOMAS, I. 89-90 and 91).

RESULTS

TABLE 1: CLINICAL SIGNS

	Before 1st operation	Before 2nd operation
Circling (wide) left or right	L	L & R
Head aversion	–	Head aversion to right
Grinding of teeth	Yes	Yes
Ataxia	Yes	Yes
Paresis	Yes	Yes

TABLE 2: VISUAL AND POSTURAL DEFICITS

	Before 1st operation	Before 2nd operation
Blink reflex	No response R	Totally blind 6 weeks after 1st operation
Unilateral blind folding	Covering of L caused total blindness	
Hopping test	Deficit right	Deficit left
Walking up and down steps	Deficit right	Deficit left
Proprioceptive placing test	Deficit right	Deficit left
Side of operation	L	R

Results continued...

Coenuriasis had occurred in sheep on this farm, but had not been seen in cattle before. The farm dogs were not routinely treated with an effective taeniacide, such as Praziquantel (Bayer, Droncit).

The heifer tended to collide with obstacles, but had a normal pupillary reflex. She appeared to recover well after the first operation when 50 ml. of fluid, plus cyst (Fig. 2) was aspirated from the left cerebrum. Six weeks later the

heifer's condition deteriorated, she became blind and had papilloedema in both eyes. She circled in either direction but with head aversion to the right. It was initially thought that part of the cyst had been left and regrown but an inspection (under anaesthesia) through the initial trephine hole revealed no abnormality. The animal was then trephined on the right side and 350 ml. of fluid was aspirated. Unfortunately, the cyst collapsed and was not extracted.

Following surgery this animal showed signs of cerebral oedema (depression, stupor and dilated pupils). Betamethasone (Betsolan soluble, Pitman-Moore) was given every 6 hours until remission of signs.

This heifer made a full recovery, although hyperexcitable when approached and was slaughtered fat 4 months later.

Post mortem examination confirmed a small cavity in the left cerebrum and a much larger cavity in the right cerebrum with no connection between them. The remains of a degenerated cyst was found in the larger cavity.

TABLE 3: SUMMARY OF NEUROLOGICAL EXAMINATION

Clinical Signs	**Interpretation (situation of cyst)**
Dull sound on percussion	
Slight softening or pain elicited on digital pressure of frontal bone	Ipsilateral cerebrum
Circling (wide) and head aversion	Ipsilateral cerebrum
Unilateral blindness	Contralateral cerebrum
Bilateral blindness	Suggests large cyst
Postural deficits	Contralateral cerebrum

CONCLUSION

There was a good correlation of neurological signs and site of cyst.

Although the author prefers to remove the whole cyst, this case suggests that perforating the cyst and aspirating the fluid can also lead to full recovery. De Villiers (1950) achieved a 60% success rate in sheep by drawing off the fluid only.

References

De Villiers, S.W. (1950) The Treatment of Gid in Sheep. J.S. Afr. Med. Assoc. 21, 151-157. Skerrit, G.C. and Stallbaumer, M.F. (1984) Diagnosis and Treatment of Coenuriasis in Sheep. Vet. Rec. 115, 399-403. Thomas, I (1989-90) Coenuriasis in Cattle. BCVA Proceedings. Thomas, I. (1991) Coenuriasis in Cattle. Bovine Practitioner, No. 26, 135-141.

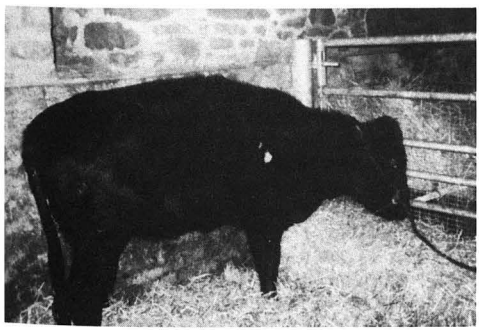

Fig. 1: Heifer with Coenuriasis

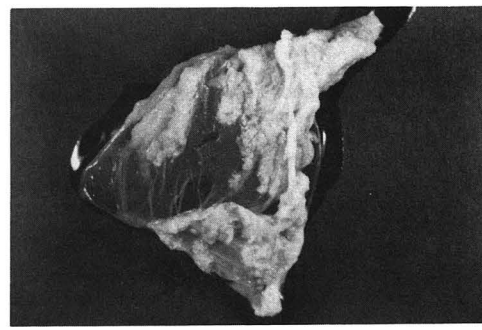

Fig. 2: Taenia multiceps removed from heifer's brain. Numerous scolices are seen as white clusters on the inner wall of the semitranslucent cyst.