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RESEARCH COMMUNICATION

OCCURRENCE OF *TAENIA SOLIUM* IN A CAPE FUR SEAL (*ARCTOCEPHALUS PUSILLUS*)

A. S. DE GRAAF(1), P. D. SHAUGHNESSY(2), R. M. McCULLY(3) and ANNA VERSTER(4)

ABSTRACT

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The larval stage of *Taenia solium* was recovered from the brain, skeletal muscles, heart, lungs and liver of a Cape fur seal collected near Cape Town. This is apparently the second record of the larval stage of this cestode in a marine mammal.

Résumé

OCCURRENCE DU TAENIA SOLIUM *CHEZ UN PHOQUE A FOURRURE DU CAP* (ARCTOCEPHALUS PUSILLUS)

Le stade larvaire du Taenia solium *a été recouvré du cerveau, des muscles squelettiques, du coeur, des poumons et du foie d'un phoque à fourrure du Cap ramassé près de Cape Town. Ceci est apparemment la seconde relation du stade larvaire de ce cestode chez un mammifère marin.*

INTRODUCTION

The larval stage of the cestode *Taenia solium* has been recorded from a wide range of terrestrial mammals other than its normal intermediate host, the domestic pig (Abuladse, 1964). According to Crety (1890), *T. solium* has also been reported as *Cysticercus cellulosae* from the Mediterranean monk seal, *Monachus monachus*. Its occurrence in a Cape fur seal, *Arctocephalus pusillus pusillus*, thus appears to constitute only the second record of *T. solium* in a marine mammal.

CASE REPORT

On 13 November 1975, an adult male Cape fur seal, obviously ill and convulsing at times, was found on a beach at Grainger Bay 5 km west of Cape Town. The animal was euthanized with intramuscular injections of Sernylan* (500 mg), Rompun** (60 mg) and Scoline*** (100 mg), and transported to the laboratory of the Sea Fisheries.

The seal had the standard length of 1,93 m, and a mass of 182 kg. Atypically there were no guard hairs or fur on its flanks or abdomen.

On dissection, several litres of a cloudy, serous fluid were found in the peritoneal cavity. A spine from the dorsal fin of a St. Joseph shark or elephant fish, *Callorhynchus capensis*, was found entangled in connective tissue around the seal's stomach. The pancreatic region was highly vascularized and enlarged, and contained nodules of pus. Two ulcers were present in the stomach wall. A large number of nematodes, *Contracaecum osculatum*, with a mass of 27,1 g, was present in the stomach.

The skeletal muscles, particularly those of the neck and pectoral girdle, were heavily infested with small parasitic cysts that were subsequently diagnosed histologically as cysticerci. Several parasitic cysts visible on the surface of the brain and in the heart, lung and liver likewise proved to be cysticerci. The brain and spinal cord were removed and fixed in formalin (8%). Subsequently, the brain and the cord, which was 43 cm long after fixation, were cut into slices 4 mm thick. The cysts, which were all about 4,5 mm in diameter, contained fully-developed larvae which appeared to be at the same stage of development. The cysticerci were primarily in the cortex and subcortical white matter of the hemispheres, although the basal ganglia and pons were also affected (Fig. 1). There were no cysts in the cerebellum, spinal cord or

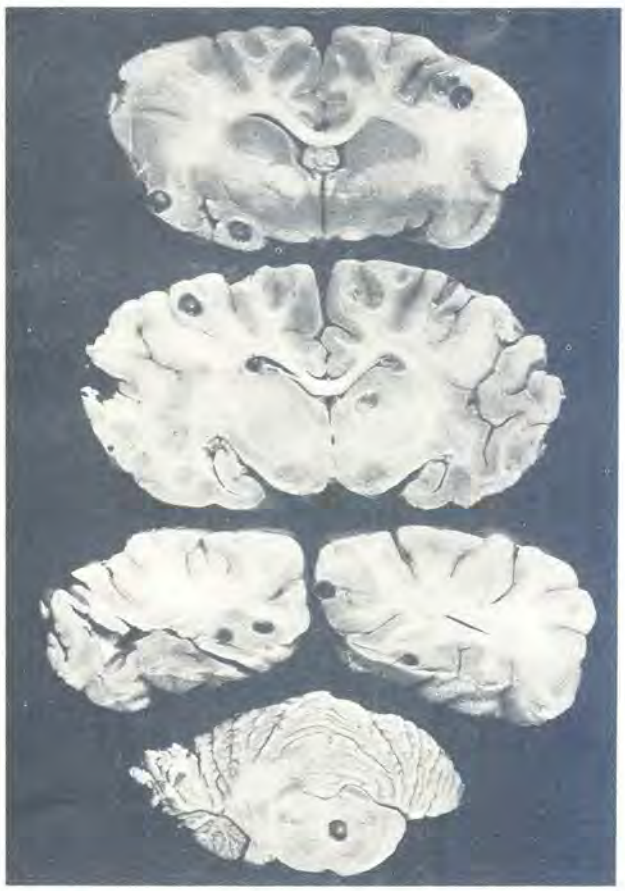

FIG. 1 Serial sections through the brain of the Cape fur seal showing cysts of *Taenia solium*

(1) Department of Neurology, Tygerberg Hospital, Parow Valley, Cape 7503
(2) Sea Fisheries Branch, P.O. Box 251, Cape Town 8000
(3) Animal Unit, Medical School, University of Cape Town, Observatory, Cape Town 8001
(4) Veterinary Research Institute, Onderstepoort 0110

* Phencyclidine hydrochloride, Bio-ceutic Laboratories
** Xylacine hydrochloride, Bayer Agro-Chemi
*** Succinylcholine, Glaxo Allenbury

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meninges. Racemose forms were not observed. The cysticerci were identified as the larvae of *T. solium* by one of the authors (A.V.).

Histologically, there was no indication of degeneration, necrosis or calcification of the cysticerci, nor was there much host response to their presence either in the brain or at any other site. Peritonitis, involving the pancreas and stomach but unrelated to the cysticerci, was present, also stomach ulceration, which appeared to have perforated in the past, since fistulous tracts, bacterial colonies and purulent reaction were present. The fistulous tracts were circumscribed by granulation tissue and probably represent the inflammation of the perigastric areas. The foreign body found in the region may have been the initiating cause of some of the fistulous tracts or it may have passed through the perforated ulcer.

Comment

In human cases of cysticercosis, convulsions are a prominent feature and may be explained by the cortical and subcortical localization of the cysticerci. The same explanation seems valid in this seal.

Dixon & Lipscomb (1961) analysed 450 cases of human cysticercosis and described the findings of 47 necropsies. Numerous cysticerci were commonly found in the cerebral hemispheres, but very few in the cerebellum. In a single case cysticerci were found in the spinal cord. In a review of the medical literature on the condition, Hesketh (1965), when describing a case of cysticercosis of the cord, drew attention to the rarity of infestation of the spinal cord in man. The distribution of the cysticerci in the seal thus correlates well with that in man.

The source of the eggs which infested this animal is open to speculation. Since the proglottids of *T. solium* leave the definitive host (man) only during defaecation, the animal may have acquired the infestation by ingesting gravid proglottids in stools or through feeding on a fish which had recently eaten a gravid proglottid and had not yet excreted the eggs.

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