Communications

Onchocerca gutturosa infection of the ligamentum nuchae in two cows in the Sudan

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Des lésions importantes du ligament cervical sont décrites sur deux vaches. L'examen nécropsique et histopathologique révèle que Onchocerca gutturosa est l'agent causal des nodules observés pour la première fois au Soudan.


Introduction

The adult worms of Onchocerca gutturosa are unobtrusive and usually of secondary importance (3, 6). Certain pathological changes due to this infection have however been described (1, 2, 3, 5). In the Sudan its prevalence among adult cattle approximates 95 % (4, 5). There is no identifiable clinical manifestation associated with the presence of adult worms despite the "severity" of the local tissue reaction. The following two cases are recorded as it would appear to be the first time that O. gutturosa worms were capable of producing massive nodular lesions in the ligamentum nuchae.

Material and methods

During collecting nuchal ligaments at Omdurman abattoir, two unusual cases were seen on 9 and 10 year-old cows. In both animals, large masses were found in the funicular side of the ligamentum nuchae, at the same location where O. gutturosa worms were usually found.

Results

Gross examination

The masses were similar in size and consistency, and were surrounded by thick pinkish connective tissue. The dimensions of the largest lesion were about 11 x 8 cm and it raised from the surface of the ligament by about 4 cm (photo 1). The other one was 9 x 7 cm and its was raised by 3.5 cm. When the superficial connective tissue covering the largest mass was removed, it was clearly divided into two nodules, the larger one measuring 5 x 5 cm and the smaller one 3.5 x 3.5 cm. On palpation, the larger nodule was hard and the smaller softer and more yellowish. Both lesions were surrounded by congestion and small haemorrhages. When incised, each mass was found to be partly calcified in the center. The caseous core was enclosed within a dense connective tissue and carefully removed with scissors under dissecting microscope. The connective tissue of the ligament was pierced above the embedded worms, then drawn out carefully. Six males were extracted, 2 of them were dead and 4 were intacted and very mobile, but complete female was difficult to extract. Two anterior parts about 10 cm long were extracted with microfilariae in their uterus and 3 posterior portion about 5 cm long were calcified.

Bacteriology examination

The contents of the lesions were negative by Gram and Ziehl-Nielsen i.e. stains, as well as negative to culture in blood agar and McConkey's medium for micro-organisms.

Histopathological examination

The inflammatory response by the presence of the parasites in the connective tissue in some of the sections was quite extensive, consisting of predominantly a massive number of eosinophils aggregating around the worms and also extending within different connective tissue bundles into the substance of the ligament (photo 2). Such reaction was sometimes in the form of acidophilic granulomas around parasitic fragments and, in such cases, the appearance suggested that worms were undergoing degeneration.

Discussion - Conclusion

In this study the authors report for the first time on a gross lesion of Onchocerca gutturosa infection in two cows. Although this is not common, there is clearly a potential for this worm to produce serious pathological changes in naturally infected animals. This was confirmed when tissue were examined histopathologically and quite severe lesions were demonstrable. The abundance of eosinophil infiltration was one of the most striking features.

Photo 1 : Large nodular mass in the funicular side of the ligamentum nuchae (two nodules) in a 9 year old cow.
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Photo 2: Inflammatory response induced by presence of O. gutturosa, massive number of eosinophilia cells (arrows) around the worms.

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References


Severe lesions of the ligamentum nuchae are described for the first time in two cows in the Sudan. Post mortem and histopathological examination of the nodules reveals inflammatory process the causal agent of which is Onchocerca gutturosa.

Keywords: Cattle - Cow - Onchocerca gutturosa - Brain - Ligament - Histopathology - Lesion - The Sudan.

First Isolation of Trichophyton verrucosum as the aetiology of ringworm in the Sudanese camels (Camelus dromedarius)

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Introduction

There are few reports on camel ringworm in the literature (4). Some dermatophytes were more frequently isolated from cases of camel ringworm, such as Trichophyton verrucosum isolated almost exclusively from young camels and T. mentagrophytes from an old animal (12). Microsporum gypseum and M. canis were also reported (5, 6, 7, 15).

Recent interest in studies of the camel has highlighted some of the diseases of this species. Though there are some records of ringworm in camels in the Sudan, no attempt has yet been made to identify the causative dermatophytes. In this country, T. verrucosum has so far been isolated from ringworm in cattle, horses, goats and man (1, 2, 8, 9). This paper describes the first systematic

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