

## Communications

***Onchocerca gutturosa* infection of the ligamentum nuchae in two cows in the Sudan**K.A. El Sinnary<sup>1\*</sup>M.F. Hussein<sup>2</sup>S.H. Hussein<sup>2</sup>

EL SINNARY (K.A.), HUSSEIN (M.F.), HUSSEIN (S.H.). Infection du ligament cervical par *Onchocerca gutturosa* chez deux vaches au Soudan. *Revue Elev. Méd. vét. Pays trop.*, 1994, 47 (2) : 183-184

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.

Mots clés : Bovin - Vache - *Onchocerca gutturosa* - Encéphale - Ligament - Histopathologie - Lésion - 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 tissues 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 intact 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 were 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 an *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.

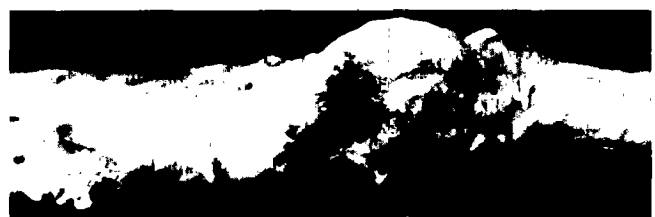


Photo 1 : Large nodular mass in the funicular side of the ligamentum nuchae (two nodules) in a 9 year old cow.

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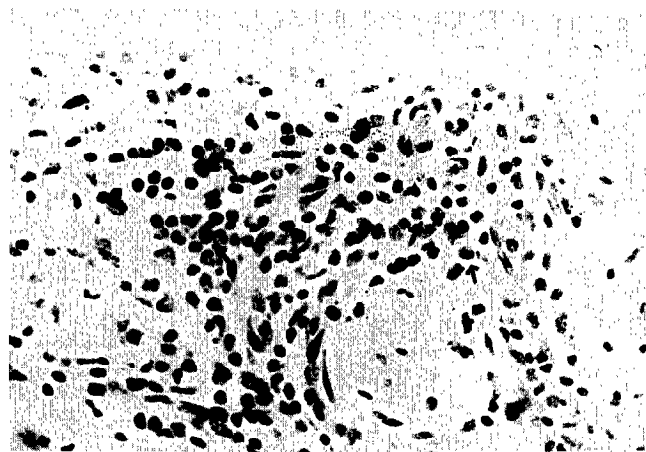


Photo 2 : Inflammatory response induced by presence of *O. gutturosa*, massive number of eosinophils cells (arrows) around the worms.

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EL SINNARY (K.A.), HUSSEIN (M.F.), HUSSEIN (S.H.). *Onchocerca gutturosa* infection of the *ligamentum nuchae* in two cows in the Sudan. *Revue Élev. Méd. vét. Pays trop.*, 1994, **47** (2): 183-184

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*.

**Key words** : 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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FADLELMULA (A.), AGAB (H.), LE HORGNE (J.M.), ABBAS (B.), ABDALLA (A.E.). Premier isolement de *Trichophyton verrucosum* dans l'étiologie de la teigne chez le dromadaire (*Camelus dromedarius*) au Soudan. *Revue Élev. Méd. vét. Pays trop.*, 1994, **47** (2) : 184-187

Une enquête a été menée au Soudan oriental pour étudier la teigne du chameau. La maladie a été diagnostiquée dans 217 cas sur 498 examens de jeunes chamelons de moins de 2 ans suivis pendant une année entière. L'incidence maximale de la maladie a été observée en automne et en hiver. Celle-ci est plus fréquente chez les animaux de 1 à 2 ans en cours de croissance que chez les animaux plus âgés, mais la prévalence est semblable entre les mâles et les femelles. Les lésions ont été principalement observées sur la tête, le cou et les épaules avec une extension fréquente sur les flancs et les membres. *Trichophyton verrucosum* a été isolé en culture pure pour la première fois comme agent causal de la teigne du chameau au Soudan. Les auteurs décrivent les aspects histopathologiques de la maladie naturelle et discutent de son épidémiologie au Soudan oriental.

**Mots clés** : Dromadaire - *Camelus dromedarius* - Teigne - Prévalence - *Trichophyton verrucosum* - Infection - Epidémiologie - Soudan.

### 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 gypsum* 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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