UNUSUAL NODULAR CUTANEOUS PRESENTATION OF HALICEPHALOBUS GINGIVALIS IN A MARE.

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INTRODUCTION

Halicephalobus gingivalis (synonyms: *Micronema deletrix, Halicephalobus deletrix*), belongs to the family Panagrolaimidae within the order Tylenchida (former Rhabditida). It is a small saprophytic, free-living and opportunistic nematode, commonly found in soil and decaying organic matter. Infestation by this parasite has been reported in horses, zebras and humans. The route of infection is believed to be oral or nasal. The most common lesions are meningoencephalitis and nephritis with only three cutaneous cases reported (two preputial and one subcutaneous head). To our knowledge, this is the first case with dermal nodular facial presentation.

RESULTS

A. Clinical history. A 5 year-old, cross-bred mare born and living in the same farm. It was presented with a 4.0 cm diameter round and ulcerated cutaneous nodular mass at the skin area of mentum. Fig.1. The mass had been observed four months before when it was 1.0 cm diameter. Treatment with topical solutions (tannic acid and iodine) was unrewarding.

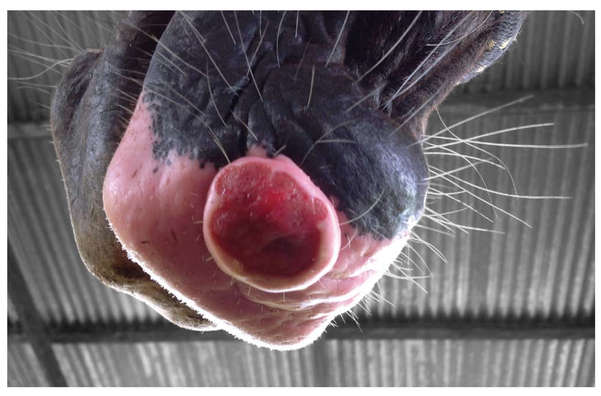

Fig.1. Observe a nodular ulcerative mass in the white area of mentum.

B. Pathological findings. Two skin punch biopsies were received, fixed in formalin, embedded in paraffin and routinely processed to obtain hematoxylin and eosin (H.E.) and PAS sections. Two scraping cytology samples were also taken and stained with Giemsa, showing cellular debris within larvae and adult nematodes (female were 200–300 µm in length and 15–20 µm in diameter) with a characteristic rhabditiform esophagus, consistent with the description of *H. gingivalis*. Fig.2.

Fig.2. A Giemsa staining of adult female parasite with the cylindrical body.

Histopathologically, the epidermis had areas of necrosis with ulceration. Diffusely, all layers of the dermis showed multiple inflammatory foci with numerous tangential and cross-sections of larvae and adults nematodes, and their eggs, surrounded by histiocytes, multi nucleated cells, lymphocytes and eosinophils. Fig. 3-4.

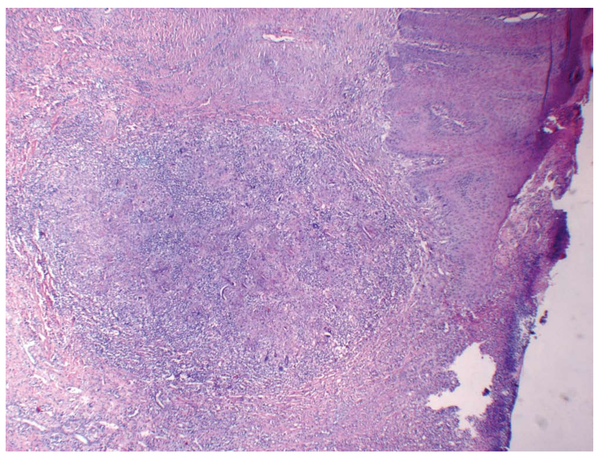

Fig.3. The epidermis had an area of ulceration. In the dermis showed multiple parasite sections.

C. Treatment. The mare was treated intramuscularly with 0.2 mg/Kg of ivermectin 1% (Virbamec LA®) a monthly dose for 4 months. After which, there was approximately 90% of recuperation. Fig. 5-6. At the present time, she is pregnant.

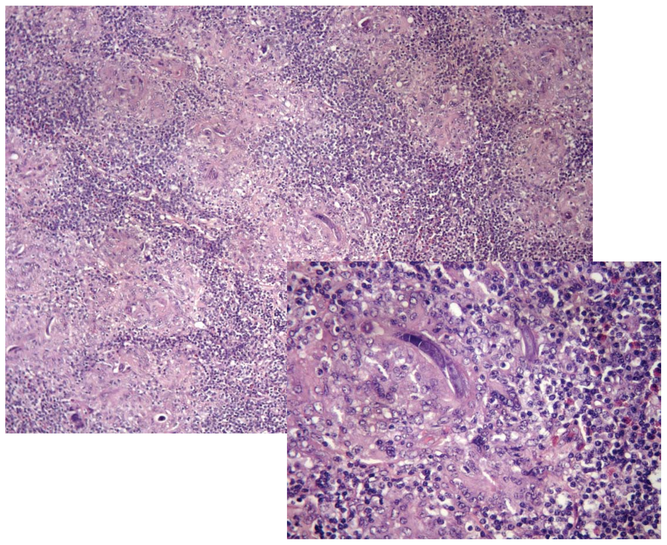

Fig.4. Several longitudinal and transversal parasite sections are seen.
Inset. Depicting of two longitudinal parasite sections surrounding by histiocytes lymphocytes and eosinophils.

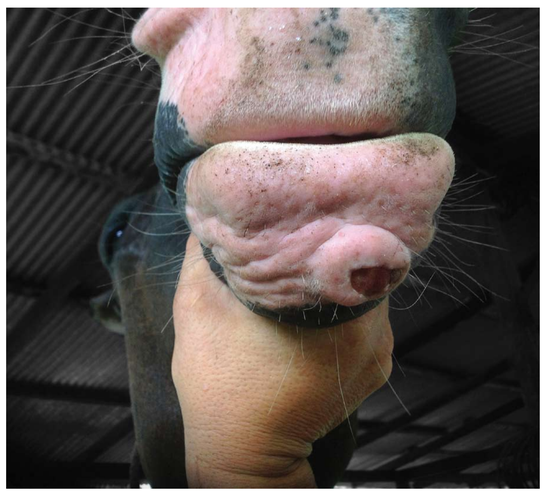

Fig.5. After 35 days with Ivermectin the nodule is smaller, but still ulcerative.

Fig.6. After 4 months of treatment, there is near 90% of healing.

DISCUSSION.

Based on the parasite morphology and microscopic findings, diagnosis of deep and diffuse granulomatous dermatitis due to *H. gingivalis* was made. The disease has been reported mainly in horses. Single cases have also been described in humans, donkey and Grevy's zebra. It seems to be a cosmopolitan infection, reported in Europe, Japan and the American continent (North, Central and South). This is the second case found in Costa Rica. The pathogenesis, life cycle and route of infection of this cutaneous infestation are still not well understood. Same as in humans, the route infection could be skin lacerations contaminated with manure. The mare reported here lives in humid tropical environment, which increases the possibilities to have chin lacerations, facilitating the parasitic penetration.

Equine infections of *H. gingivalis* have been mostly described in the brain and kidneys. Regarding the cutaneous presentation, only three cases have been reported (two prepuce and one subcutaneous). In addition, this is the first case affecting the dermis. Similar to the previous three horses, this one successful responded to the Ivermectin treatment.

References.

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