Equine cutaneous habronemiasis with intralesional larvae: 23 cases

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INTRODUCTION

Habronemiasis is a parasitic disease mainly reported in horses, but also in donkeys, mules, zebras and dogs. It is caused by invasion of Draschia megastoma (*H.megastoma*), *Habronema majus* and *H. muscae* nematodes. The adults of these nematodes inhabit the equine stomach with only *D. megastoma* residing in nodules. The pathogenic nematode larvae and eggs in the feces are ingested by maggots on intermediated hosts: Musca domestica, housefly and stable flies, and then transmitted while feeding on preexisting skin and mucosal wounds. It is more common in subtropical and tropical regions. The cutaneous form is the most frequent clinical presentation especially in limbs, ventral abdomen, periocular and external genitalia. Also, it can affect the prepuce and the ocular conjunctiva. Clinically, it may be presented as solitary or multiple lesions, characterized by ulceration, exudation, sometimes hemorrhage, exuberant granulation tissue and pruritus.

MATERIALS AND METHODS

The aim of this retrospective study is to report the signalment, seasonal presentation, and anatomic location of 23 horses with cutaneous habronemiasis. All electronic medical records of equine cutaneous biopsies from 2006 through 2015 were searched and only horses showing histopathological larval sections after paraffin processing and staining with Hematoxylin and Eosin were included in this study. The genitalia and conjunctival cases were not included in this study.

RESULTS

There were six different breeds; the two more affected were 12 out 23(52.1 %) Mixed and 5 out 23(21.7%) Costa Rican Saddle horses. The age ranged from 5 to 20 years old (median age 7.41). The three main groups were eight reported as adults, five 6-year-old and four 5-year-old horses. There were eleven males and ten females (2 not reported). Regarding the anatomic locations, 14 horses (60.8%) showed affected limbs (see fig. 1) followed by 3 (13%) with periocular lesions (see fig.2).

Fig 1- A. There is ulcerative bleeding lesion of the left anterior limb (cannon). In Fig.1-B. An ulcerative area of 5.0 cms is located up the coronary border of the left posterior limb. There are a lot of detritus and domestic flies.

Fig 2- Bilateral periocular habronemiasis presentation (A). Besides ulceration there is a yellow light serum exudate (B).

In 4 horses the lesions were present in two different anatomic areas. All cases were seen throughout the year, however, 15(65%) of them occurred during the rainy season. Microscopically, in the dermis or subcutis, there was one o more granulomas within larval sections, surrounding by coagulation necrosis, then a predominant eosinophilic inflammatory reaction (see fig 3).

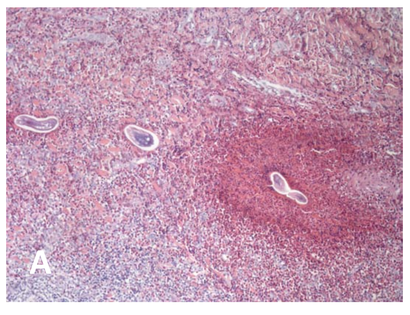
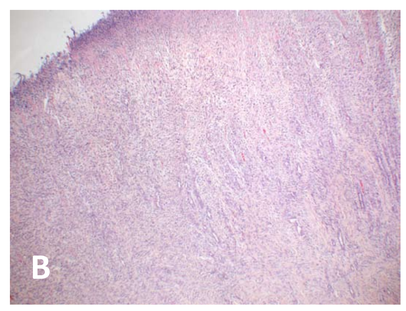


Fig 3- (A) Microscopic section revealing three nematodes segments. (B) Shows two larvae sections surrounding by eosinophilic necrotic tissue.

DISCUSSION

The majority of cutaneous habronemiasis reported have been single cases. The only retrospective study published by Pusterla, N et al. 2003, with 63 horses, but only 44% of them had sections of nematode larvae. On the contrary, the 23 cases reported here had microscopic larval sections. In this study the Arabians and Quarter horses were overrepresented (28.6 and 22.2 % respectively), on the contrary we found 74% cases in Mixed and Costa Rican Saddle breeds. Similar to this retrospective study we did not find sex predisposition or age variation (7.41 versus 7.3). Also in agreement with this study the extremities were most commonly affected. Opposite to many reports, we believe in tropical conditions the disease is present throughout the year with more incidences during the rainy season. The differential diagnosis includes equine sarcoid, exuberant granulation tissue, squamous cell carcinoma and Pythium sp infection among others (see the figs. 4,5 and 6).



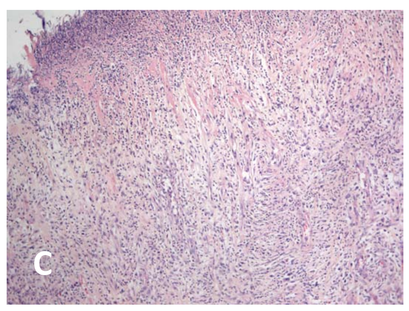


Fig 4- The pastern area showing a cutaneous proliferative and ulcerative area (A). The microscopic findings are consisting of granulation tissue. In the upper the epidermis is not present due to severe necrosis and ulceration (B and C).

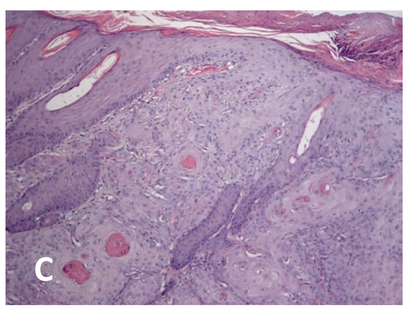


Fig 5- These are two different clinical presentation (rear pastern and ventral neck) of squamous cell carcinoma (A and B). The Fig. C shows the microscopic features of this neoplasia.

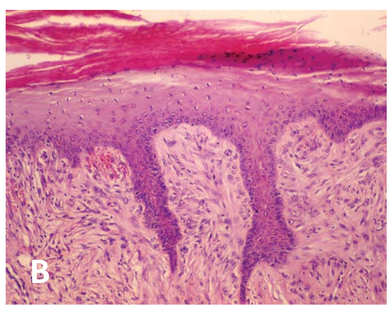


Fig. 6. A sarcoid case. Grossly, there is a periocular ulcerative growth (A). The inset with the characteristic microscopic findings of this neoplasia.

LITERATURE RECOMMENDED

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