

Communication

[Comunicação]

Pythiosis with atypical location in the soft palate in a horse in Southern Brazil

[*Pytiose com localização atípica no palato mole em um equino na região Sul do Brasil*]

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Pythiosis is a pyogranulomatous disease caused by the water oomycete *Pythium insidiosum*, being described in tropical, sub-tropical, or temperate, humid, flooded, or marsh regions (Mendoza *et al.*, 1996). Although horses are more affected (Santurio *et al.* 2006), this disease has been described in other species, such as dogs (Pereira *et al.*, 2010), bovines (Grecco *et al.*, 2009), sheep (Tabosa *et al.*, 2004), cats (Barker *et al.*, 1993), and humans (Marques *et al.*, 2006).

In horses, cutaneous lesions represent the most common clinical manifestation of the disease. These lesions are characterized by ulcerative granulomatous, forming large masses of yellowish-white necrotic tissue, called “kunkers” (Santurio *et al.*, 2006). In addition to skin lesions, horses may have gastrointestinal disorders due to previous injury in the mucosa by plant material or pathogen (Bezerra Júnior *et al.*, 2010) and bone lesions involving associated with subcutaneous injuries on the limbs (Alfaro and Mendonza, 1990). The aim of this study was to describe the clinical, pathological, and immunohistochemical findings of pythiosis at an atypical location on the soft palate of a horse.

The horse under study was a 10-year-old female, from Criollo breed, with a history of progressive weight loss, dyspnea and dysphagia. The physical examination of the oral cavity showed no alterations. Other physiological parameters were normal. Radiological examination of the esophagus and epiglottis revealed a radiolucent mass after the glottis. The presumptive diagnosis was neoplasm, and the animal was hospitalized

for surgical intervention, but died on the same day. Samples obtained at biopsy were sent to the Medical Laboratory of Preventive Veterinary – UNICRUZ, for culture and identification. All samples for histopathology were fixed in 10% formalin, routinely processed for histological examination, and stained with hematoxylineosin (HE) and Grocott Methenamine Silver stains (GMS). Selected sections of the soft palate were immunostained with a polyclonal antibody primary anti-*Pythium insidiosum* produced at the Mycological Research Laboratory of the Federal University of Santa Maria (UFSM), according to cases previously reported in the literature (Pedroso *et al.*, 2009; Bezerra Júnior *et al.*, 2010).

Macroscopically, the soft palate was enlarged and caudally shifted, resulting in a physical obstruction of the nasopharynx (Figure 1A). When cut, this mass was white to yellowish, with fibrous areas, and white-yellowish ulceration (“kunkers”) came off easily (Figure 1B). Histologically, the tissue showed necrotic loci associated with tubuliform negative images of fungal hyphae, surrounded by eosinophils, neutrophils, and macrophages infiltrations, with lush fibrous connective tissue (Figure 1C). The Grocott stain evidenced septate and ramified hyphae in the necrotic loci (Figure 1D). In the material sent for culture, *P. insidiosum* was not identified. The immunohistochemical evaluation; however, was positive for *P. insidiosum* (Figure 1E).

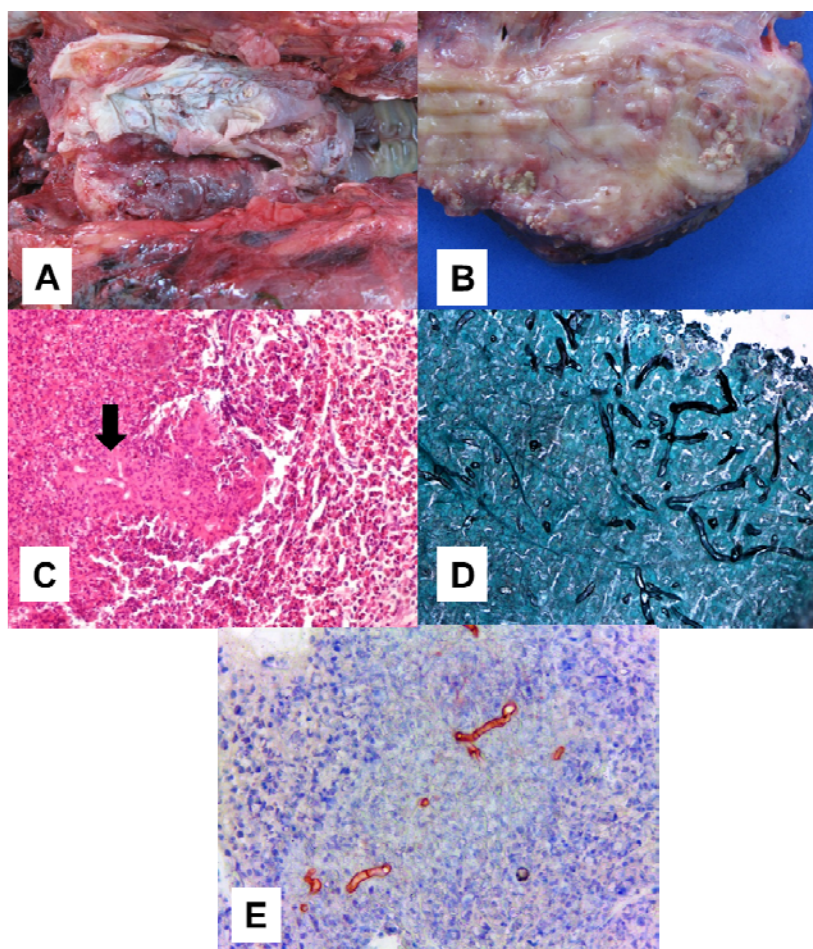


Figure 1. Pythiosis in the soft palate of a horse. A) Exuberant increase of the soft palate due to the presence of a white mass, firm, and ulcerated pinching exo-pharynx. B) The cut is white and fibrous with yellowish white necrotic areas on the periphery of the lesion ("kunkers"). C) Histologically there is necrotic focus associated with negative tube-like fungal hyphae images. D) Longitudinal hyphae of *P. insidiosum* with septate and ramified structures in Grocott staining Obj. 40x. E) *P. insidiosum* positive staining in immunohistochemistry. Obj. 40x.

The diagnosis of pythiosis was based on the macroscopic and microscopic findings and confirmed through immunohistochemical technique, and was similar to the diagnoses described in the literature (Pedroso *et al.*, 2009; Bezerra Júnior *et al.*, 2010).

In horses, cutaneous pythiosis is the most frequent form, followed by intestinal lesions (Santurio *et al.*, 2006); however, skin lesions may secondarily affect other organs and tissues (Alfaro and Mendonza, 1990). In this case, the injuries occurred on the soft palate with obliteration of the nasopharynx, and we have not found any citation in the literature of occurrence in this location. Although cases of metastasis via

the lymphatic system of regional lymph nodes and lungs have been reported (Chaffin *et al.*, 1995), they were associated to lymphatic drainage of skin lesions. In this case, the lesions were observed only on the soft palate, with no skin or lymphatic involvement.

Leal *et al.* (2001) reported atypical cases in horses. However, these unusual cases were described only in Região Pantanal Brasileiro (called "Pantanal") and they refer to the aspect of the lesions, not the location. In this report, the animal had severe respiratory distress, showing no clinical signs usually seen in cases of pythiosis, such as ulceration, pruritic, and mucopurulent skin lesions (Santurio *et al.*, 2006). An

interesting aspect of this report refers to the fact that the animal had no history of previous illness to justify an injury as a gateway. The disease has usually been linked to intake of *P. insidiosum* contaminated water (Santurio *et al.*, 2006), which may have been the route of infection in

this case, since the animal was in the field, having access to the water reservoir.

Keywords: Equine, atypical pythiosis, *Pythium insidiosum*, immunohistochemistry

RESUMO

A pitiose é uma enfermidade piogranulomatosa causada pelo oomiceto aquático Pythium insidiosum, que acomete várias espécies domésticas, assim como a humana. O presente relato refere-se à descrição de um caso de pitiose em um equino, fêmea, da raça Crioula, criado na região Sul do Brasil com história clínica de emagrecimento progressivo, disfagia e dificuldade respiratória. Macroscopicamente, o palato mole estava aumentado de tamanho e deslocado caudalmente, resultando em obstrução física da nasofaringe. Ao corte, essa massa era branca-amarelada, fibrosa e com áreas de ulceração. Na análise histopatológica, havia inflamação piogranulomatosa, com focos necróticos associados a imagens negativas tubuliformes de hifas fúngicas. A coloração de Grocott demonstrou inúmeras hifas septadas e ramificadas, as quais foram marcadas positivamente para anticorpos contra P. insidiosum na imunohistoquímica. O diagnóstico de pitiose foi baseado nos achados macro e microscópicos e confirmado pela técnica de imuno-histoquímica.

Palavras-chave: equino, pitiose atípica, Pythium insidiosum, imuno-histoquímica

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