



Latin Comparative Pathology Group

The Latin Subdivision of the CL Davis Foundation

Diagnostic Exercise

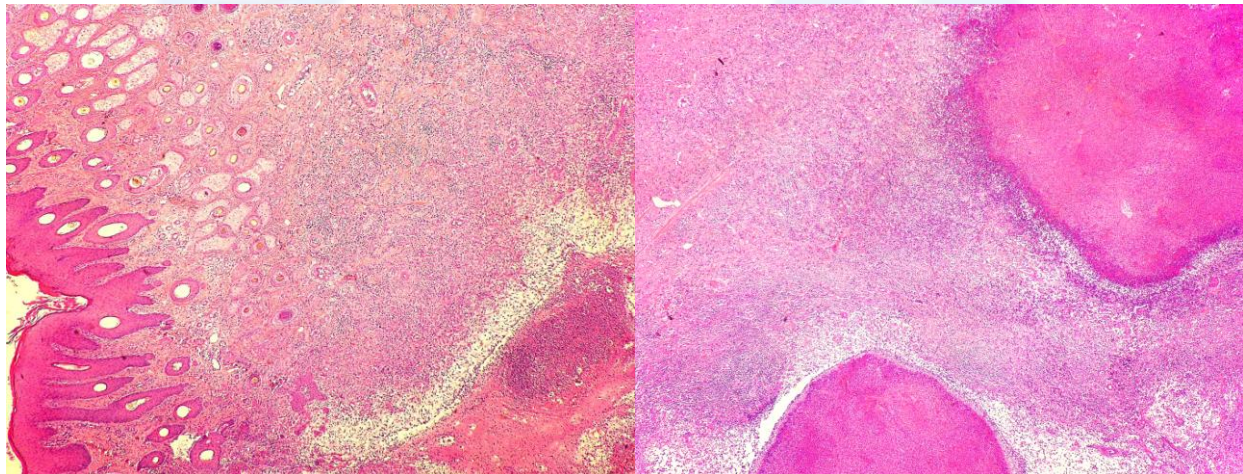
Case #: 32 Month: May Year: 2013

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Clinical History: 10-year-old male castrated horse presented with a 3-month history of ulcerated wound on the ventral abdomen.

Morphologic diagnosis: Haired skin: Severe multifocal-diffuse (focally extensive?) pyogranulomatous eosinophilic and ulcerative dermatitis/cellulitis with intralesional fungal hyphae

Histological appearance: Histologically, lesions are characterized by multifocal-coalescing foci of mostly degenerate granulocytes (neutrophils and eosinophils) which obscure the underlying collagen and adnexa. Embedded within these foci there can be numerous 2.6-6.4 μm wide, irregular and sparsely septated, thick-walled fungal hyphae. Special stains such as PAS and Gomori metenamine silver (GMS) can help in identification of intralesional hyphae.

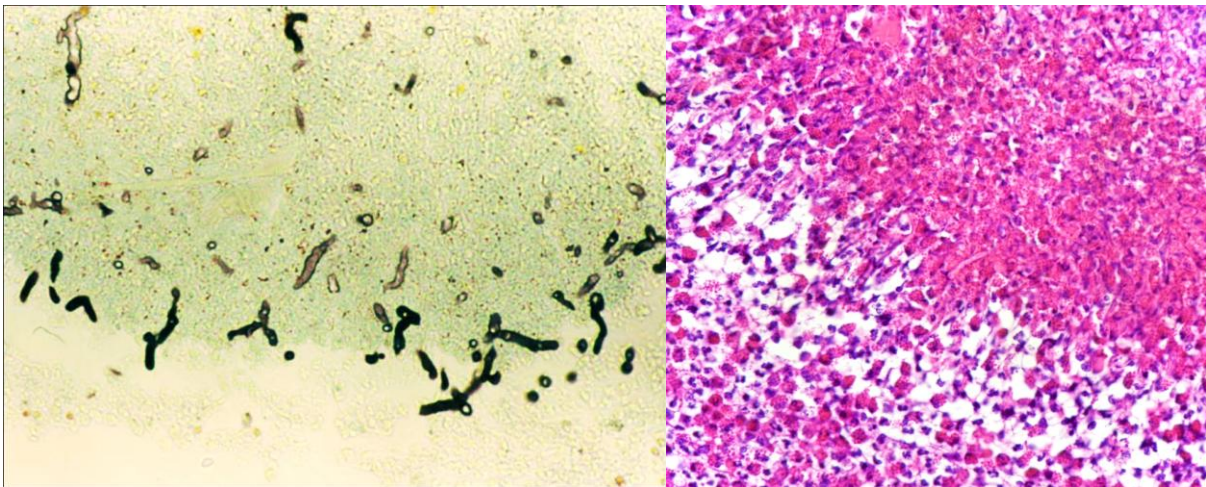


Haired skin, horse - 5x and 10x, respectively - H&E stain

Etiology: *Pythium insidiosum*

Etiological diagnosis: Cutaneous pythiosis

Pythiosis (or “swamp cancer”) was first described in 1884. The causative agent, *P. insidiosum*, is an oomycete which is pathogenic to mammals and most commonly infects horses, dogs, and humans in tropical and subtropical areas of the globe. Infection happens via cutaneous wounds that are exposed to water containing motile zoospores. The site of infection determines the resulting disease, which is most commonly cutaneous but can also be gastrointestinal, ocular, vascular or even systemic in nature. Pythiosis is not a contagious disease, meaning no animal to animal or animal to human infection occurs.



Haired skin, horse - 40x - GMS and H&E stains respectively

In horses, Pythiosis gross lesions often occur on areas which have contact with water such as limbs, ventral abdomen, and chest. Lesions consist of fleshy ulcerated masses which commonly drain serosanguinous fluid and may contain cores of necrotic yellow-gray material referred to as “kunkers”. Differentials for pythiosis in horses include cutaneous nematodiasis (such as *Habronema muscae*), fungi (*Conidiobolus* sp and *Basidiobolus* sp), extreme granulation tissue (“proud flesh”), and neoplasia (mainly squamous cell carcinoma).

References

Wim Gaastra, Len J.A. Lipman, Arthur W.A.M. De Cock et al. (2010) *Pythium insidiosum*: An overview. Veterinary Microbiology. 146:1-2 p1-16

Veterinary Systemic pathology on line (available at http://www.askjpc.org/vspo/show_page.php?id=293)

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A final document containing this material with answers and a brief discussion will be posted on the C. L. Davis website by the end of the current month (http://www.cldavis.org/lcpg_english.html).

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