Subcutaneous, lymphocyte-rich, mycetoma-like, fungal pyogranuloma in a pony

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Clinical history: A 4-year-old, Quarter Pony mare developed a slow growing, non-ulcerated, subcutaneous mass in the lumbar area for over 6 months. Mass was surgically removed and submitted in formalin for histological examination.

Gross findings: The mass was approximately 2.5 x 1.5 x 2 cm, fleshy, dome-shaped, exophytic, and white to tan on cut section.

Microscopic description: There was a well-demarcated, non-encapsulated aggregate of coalescing pyogranulomas, with epithelioid macrophages, multinucleated giant cells and neutrophils, surrounded by a dense lymphoid population, which occasionally formed prominent aggregates reminiscent of lymphoid follicles.Within the center of these pyogranulomas, there were debris and intracellular (within macrophages and multinucleated giant cells) and extracellular fungal hyphae. The latter were 10 to 25 microns in diameter, non- pigmented, non-branching, septated, non-parallel walled, and with prominent, up to 40 microns, terminal cysticbulbous dilations.

Ancillary tests: PAS and GMS stains revealed more numerous fungal structures than previously noted by HE.

Morphologic diagnosis: Haired skin: Dermatitis, pyogranulomatous, multifocal to coalesing, chronic,with intralesional, intra- and extracellular fungal hyphae, and prominent lymphoid component

Comments: Based on microscopic characteristics, the hyphae were compatible with *Zygomyces*, but final speciation by culture was not performed, since the sample was received fixed. Differential diagnoses may include Entomophthorales (e.g. *Basidiobolus* spp., *Conidiobolus* spp.), *Phytium* spp., *Lagenidium* spp., and other opportunistic, saprophytic fungi. These fungi generally enter the skin through wounds, implanted plant material, and/or by biting insects. Then, a chronic granulomatous/pyogranulomatous inflammatory response develops, and a variable lymphoid component surrounds the pyogranulomas, causing thus a mass-like effect. This particular slide is an example of this prominent lymphoid reaction. Incautious examination might lead to amisdiagnosis of lymphoid neoplasm if fungal structures are not readily identified.

References:

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