FELINE MYCOBACTERIAL PANNICULITIS. PRESENTATION OF SEVEN CASES FROM COSTA RICA.

Alexis Berrocal. Servicio Privado de Patología Veterinaria. Heredia, Costa Rica. histopatovet@gmail.com o www.histopatovet.com

INTRODUCTION.

Mycobacterium, it is an aerobic, Gram-positive rods, non-spore-forming and mycolic acid-producing bacillus, is classified in three groups: obligate, saprophytes, with two subgroups (low and rapid growers), and a difficult or impossible to cultivate. Additionally, the genus *Mycobacterium* is divided in three groups (Green, 2012). (1) Slow-growing, that do or do not produce tubercles, (2) canine leproid granuloma, which cannot be cultured using standard methods and (3) rapid growing mycobacteria that are easily cultivated (around 7 days), within three sub-groups, *M. smegmatis*, *M. fortuitum*, and *M. chelonae / abscessus*. All members of these rapid growing mycobacteria are ubiquitous in the environment (soil, water, etc.). In small animals, this rapid growing group is considered the most frequent, with three different syndromes in dogs and cats: (I) infectious panniculitis, (II) pyogranulomatous pneumonia, and (III) disseminated infection.

The panniculitis presentation, also known as mycobacterial panniculitis or atypical mycobacteriosis, is a chronic infectious of the dermis and subcutis (panniculus adiposus). In cats, the infection frequently starts in the inguinal area. However, it also may initiate in the axillae, flanks, or dorsum. It is generally associated with a cat-fight or other skin wounds as surgery, injections, etc.

The aim of this study is to describe seven cat cases of dermal infection that epidemiological, clinical and pathological findings are comparable to previous cases of mycobacterial panniculitis caused by rapid growing mycobacteria, reported in warm humid and cool climates including Australia and Canada.

RESULTS.

CLINICAL CASES: Between 2005-2011, seven cats were diagnosed with cutaneous panniculitis associated with *Mycobacterium sp* infection. Six were spayed female, domestic short hairs, and one castrated male, Snowshoe. The age ranged was from 8 months to 8 years (5 cats were ≤ 3 years old). In the five cases, the infection developed between 1-2 weeks after the spay procedure. The male manifested the lesion four months after injection (left lumbar area). In one, the event was not clearly determinated.

PATHOLOGICAL FINDINGS: Grossly, in five cats, there was a solid nodular mass formation (Fig.1 and Fig.2), with addition fistulation in two of them (Fig.3). The remaining two cats showed a punctuated with draining tracts (Fig.4). At least one subcutaneous biopsy was taken in all cats. They were processed routinely for histopathological examination and stained with Hematoxylin and Eosin, and Fite-Faraco.

Microscopically, the dermis and panniculus showed a diffusely pyogranulomatous inflammation with several clear spaces (lipid vacuoles) within tangled like filaments. (Fig.5). In all seven cases they were positive with Fite-Faraco (Fig.6). Additionally, there were areas with coagulated necrosis.

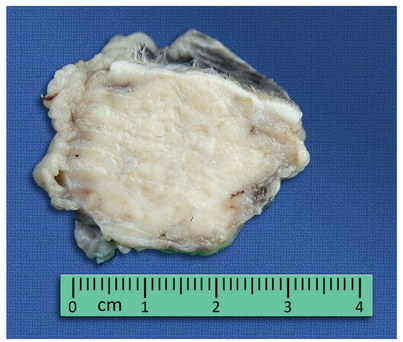

Fig.1. A cut surface of solid mass. The mass is surrounded by skin (upper), then by mature fat tissue.

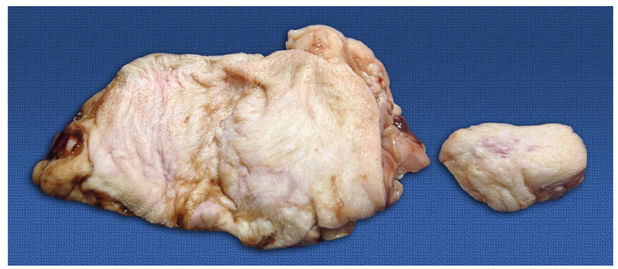

Fig.2. Two nodular masses from the mammary inguinal area. They were bilateral.

Fig.3. Injection site area. Ulceration with skin discoloration and redness.

Fig.4. Inguinal area showing a punctuated and draining tract, with serosanguineous fluid.

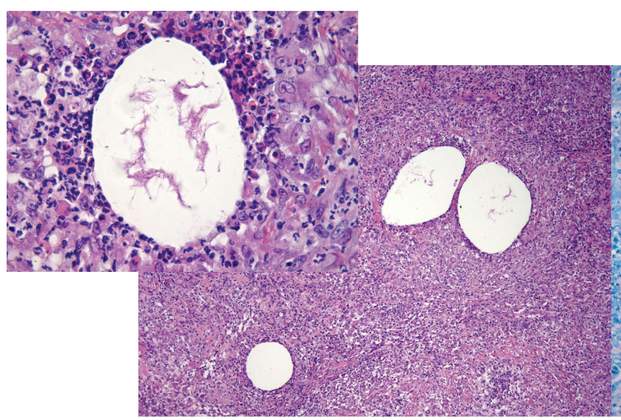

Fig. 5. Several lipid vacuoles with like filaments. The vacuoles are surrounded by a diffuse pyogranulomatous inflammation. H.E. stain. Inset.

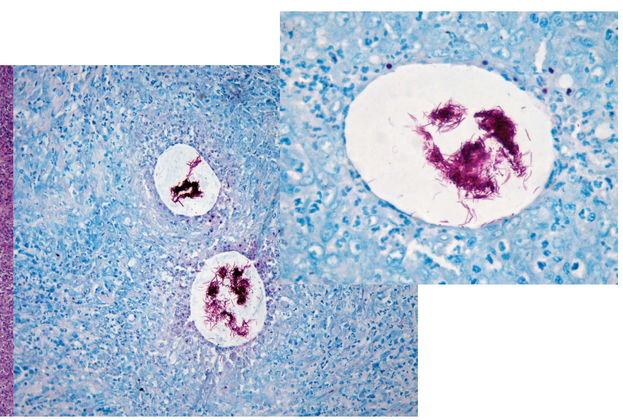

Fig. 6. The lipid vacuoles show the red bacilli filaments. Inset. Fite stain.

DISCUSSION: The epidemiological, clinical and pathological findings of these panniculitis are comparable to previous literature reports. Penetrating skin injuries are frequently incriminated as the inciting cause, as it was related in six of our cats. Furthermore, similar to what has been mentioned in previous studies, there was an over representation of spayed female (6/7 cases). Moreover, like other reports, 6 out 7 were domestic shorthair cats. In 6 out 7 cats, there was an indication of trauma prior to the infection, in five the injury was in the ventral-inguinal area. Unfortunately, because there is not a reference mycobacterium laboratory in Costa Rica, they were not cultured.

CONCLUSION: To our knowledge this is the first serial report of mycobacterial panniculitis infection in cats from Latin America.

ACKNOWLEDGEMENTS.

I wish to thank to the following veterinarians that provided the clinical information and gross pictures. Karla Carvajal, Paola Campos, Adrian Solano, and Mauren Rodriguez.

RECOMMENDED REFERENCES.

-Green. Infectious Diseases of the cat and dog. Fourth Edition, 2012. Chapter 48, Mycobacterial Infections.

Horne, K. S. and Kunkle, G. A. Clinical Outcome of cutaneous rapidly growing mycobacterial infections in cats in the south-eastern United States: a review of 10 cases (1096-2006). J. of Feline Med and Surg.(2009) 11, 627-632.

-Malik, R. Shaw, S.E. et al. Infections of the subcutis and Skin of dogs caused by rapidly growing mycobacteria. Journal of Small Animal Practice (2004) 45, 485–494.

histopatovet
especialistas en patología veterinaria

PRESENTED AT: BIENNIAL SYMPOSIUM OF THE INTERNATIONAL SOCIETY FOR COMPANION ANIMAL INFECTIOUS DISEASES (ISCAID). NOVEMBER 14-17,2012, SAN FRANCISCO, CALIFORNIA, USA.