Pyogranulomatous panniculitis caused by *Mycobacterium alvei* in a cat

MADAM

A nine-year-old, indoor/outdoor, shorthair, neutered, male cat was referred for investigation of a six month history of non-pruritic, subcutaneous masses/nodules. These masses were warm, fluctuant and painful, measuring approximately 4×3 cm, located in the inguinal and sacrococcigeal area (Fig 1).

In the inguinal region, the skin was hairless and thickened with a scarred aspect. A subcutaneous fistula was present in the abdom-inal region. The cat otherwise appeared healthy.

Biochemical serum analysis showed mild hyperproteinaemia and mild neutrophilia. Feline leukaemia virus and feline immu-nodeficiency virus tests were negative, and thoracic and abdom-inal x-rays showed no abnormality.

Cytological examination of a liquid brown material obtained by fine needle aspiration from an entire nodule showed (Diff- Quik staining method) degenerate neutrophils, numerous large macrophages, plasma cells and multi-nucleated giant cells. Myco- logical cultures gave negative results.

Histopathological preparations of biopsies taken from the masses (stained by H&E method) showed pyogranulomatous inflammation with miliary nodules consisting of epithelioid cells, macrophages, lymphocytes, plasma cells and rare giant cells. In addition, small foci of fat necrosis (lipocystis) were present. The overlying epidermis showed mild diffuse orthokeratotic hyperkeratosis with follicular atrophy (Laboratorio analisi veter-inarie, Turin; Director: A. Vercelli).

Bacteriological culture on Middlebrook 7/10 medium at 30°C allowed a rapid growth of rough, non-pigmented colonies of bacteria, with microscopic evidence of cells forming clumps but not cords. Acid-fast bacto-bacilli were revealed in tissue sam-ples by a Ziehl-Neelsen staining test modified for rapidly growing *Mycobacteria* (RGM), performed by the Istituto Zooprofilattico Sperimentale del Mezzogiorno – Unita` Operativa Semplice di Diagnostica; Director: A. Disarno. A rapid growing *Mycobacte- rium* was diagnosed as the causal agent of the granulomatous panniculitis process. PCR on the *Mycobacterium* strain was car- ried out following the method described by Kulski and others (1995) using Ampliquality MYC-TE, (AB Analitica srl, Padua, Italy) at the Istituto Zooprofilattico della Lombardia e dell'Emilia-Romagna (Centro di Referenza Nazionale per la Tubercolosi da *M. bovis*; Director: M. Pacciarini). The sequence of a portion of the 16s rRNA gene (analysed using BLAST and Microseq [Applied Biosystems] data banks) was 100 per cent homologous with *Mycobacterium alvei* (Ausina and others 1992).

The *M alvei* is a new species of rapidly growing, non-photo- chromogenic mycobacteria (Ausina and others 1992). To our knowledge, this is the first description of feline mycobacteriosis caused by this microorganism. Mycobacteria are identifiable either as slow growing (Greene and Gunn-More 2006) or as RGM (Malik and others 2006). As opportunistic microorganisms, they can affect the host, in the presence of predisposing factors, via traumatic lesions or through wound contamination (Jang and Hirsh 2002), RGM in particular affecting immunocompromised subjects. In pets, RGM produce panniculitis, pyogranulomatous pneumonia and disseminated systemic disease (Grooters and others 1995, Malik and others 2000, Youssef and others 2002) but are generally not zoonotic (Malik and others 2006). The *Myco- bacterium* may, in this case, have been introduced via the scratches noticed by the owner or by trauma or wound contamination.

In this case, the clinical aspect of *M alvei* infection resembled that commonly documented in feline cutaneous and subcutane-ous mycobacterioses caused by other RGM.

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