

## **INJECTION SITE REACTION MIMICKING A PRIMARY CUTANEOUS LYMPHOMA IN A CAT.**

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**Specimen:** Cytological sample of a subcutaneous mass, May-Grünwald-Giemsa stain.

**Segnalament:** A 4-years old, spayed female, domestic shorthaired cat.

**History and clinical findings:** the cat was presented to the referring veterinarian for slow growing, non painful, not ulcerated, 1 cm in diameter, subcutaneous mass on the dorso-lateral thoracic region (Fig. 1). The nodule developed in an area corresponding to an drug injection site made 35 days earlier. At clinical examination the cat was in a good body condition and results of CBC and serum biochemistry were unremarkable.

Cytology samples, obtained by fine needle aspiration biopsy (FNAB), were air dried and stained with Diff-Quick. The referring veterinarian interpreted the lesion as a cutaneous lymphoma but sent cytological stained and unstained slides for a consult to the cytopathology service of the Department of Animal Pathology, Hygiene and Public Health, University of Milan.

Slides were stained with May-Grünwald-Giemsa technique. Cytology was characterized by a prevalence of medium sized lymphocytes with round to indented nuclei, finely granular to diffuse chromatin (centrocytes) admixed with small mature lymphocytes, occasional centroblasts and macrophages. Findings were consistent with a chronic lymphohistiocytic dermatitis. (Fig. 2 and 3)



Fig. 1: Subcutaneous mass of a cat

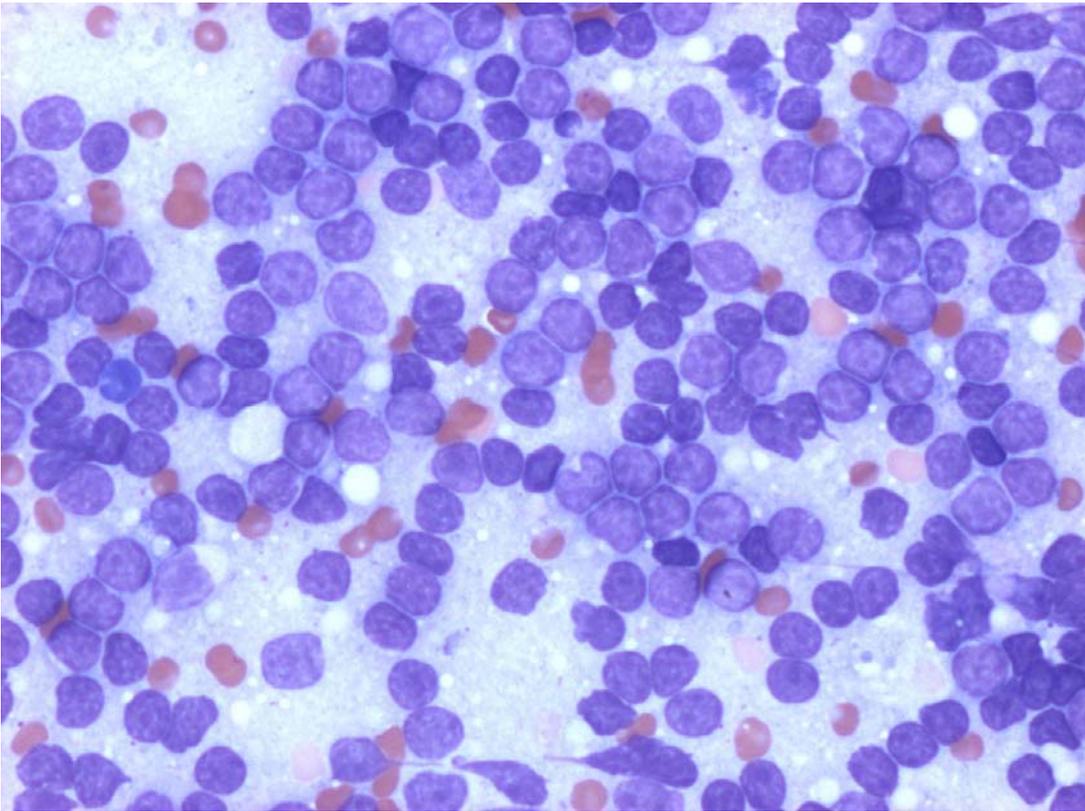


Fig 2: FNA of a dorso-lateral thoracic subcutaneous mass of a cat. May-Grünwald-Giemsa, 40x

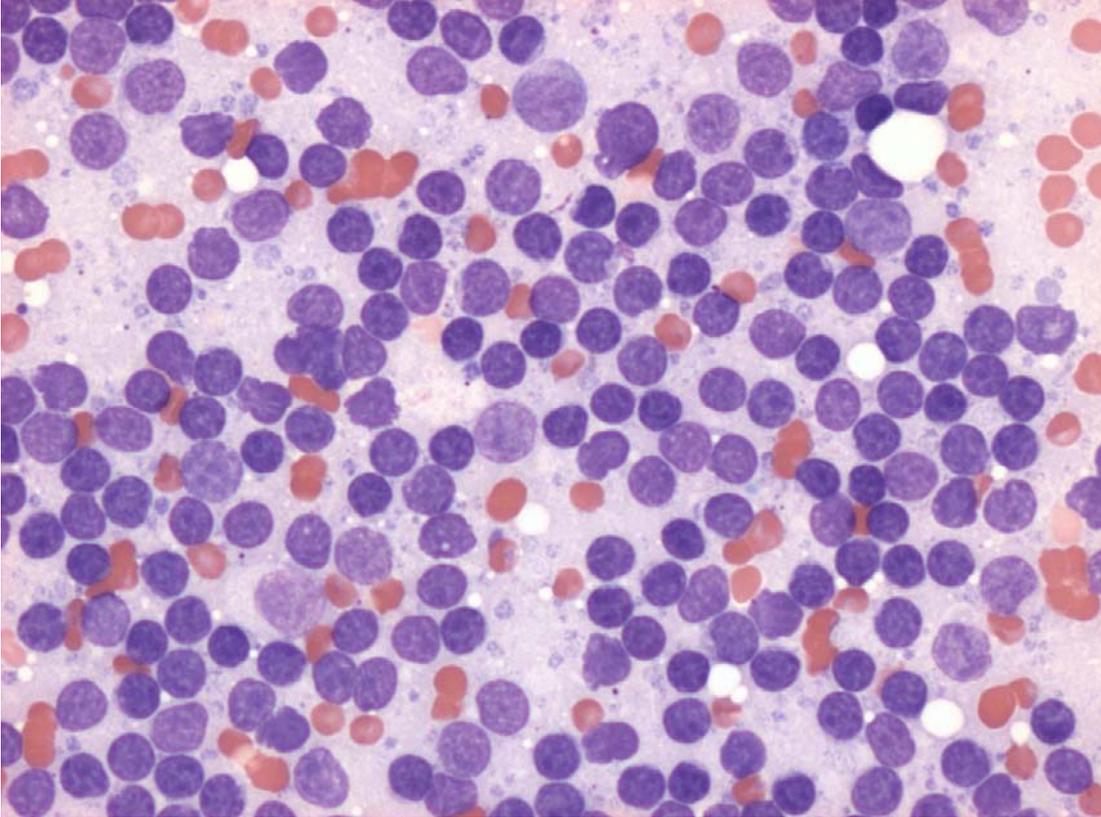


Figure 3: FNA of a dorso-lateral thoracic subcutaneous mass of a cat. May-Grünwald-Giemsa, 40x.

To definitely rule out a cutaneous lymphoma the lesion was surgically excised and fixed in 10% buffered formalin for histopathology.

**Histopathological examination:** Histologic evaluation revealed a subcutaneous oval, well demarcated, unencapsulated mass composed of two prevalent components (Fig 4). One was constituted by small mature and reactive lymphocytes infiltrating the nodule diffusely or organized in small pseudofollicular, occasional perivascular (Fig 5) aggregates admixed with occasional lymphoblasts. The second component consisted of a mixed inflammatory and reparative reaction composed of plump reactive fibroblasts, plasmacells, macrophages, eosinophils and, occasional mast cells (Fig. 6). The histologic diagnosis was a dermatitis/panniculitis subacute to chronic, lymphocytic and (pseudolymphoma-like) and an eosinophilic to granulomatous reaction with mast cells.

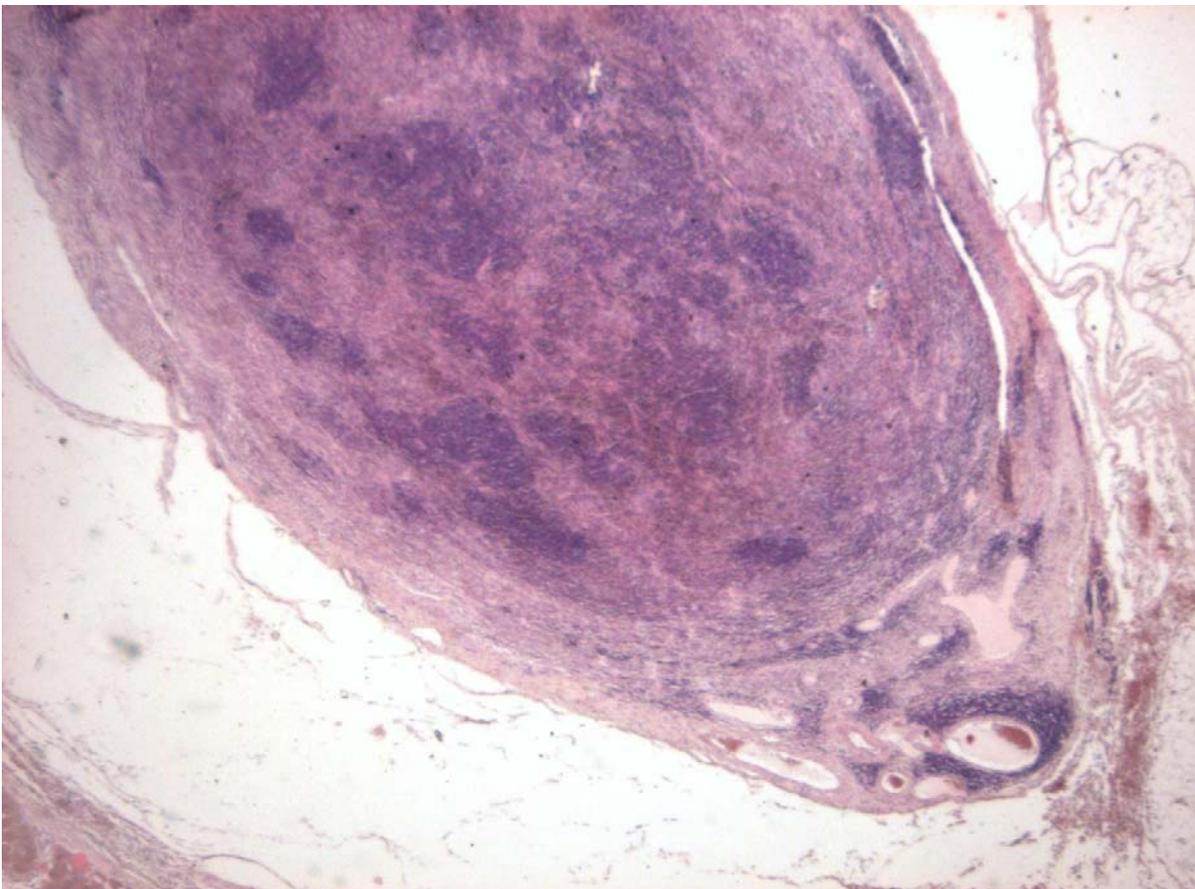


Fig 4: Subcutaneous mass, hematoxylin-eosin, 4X

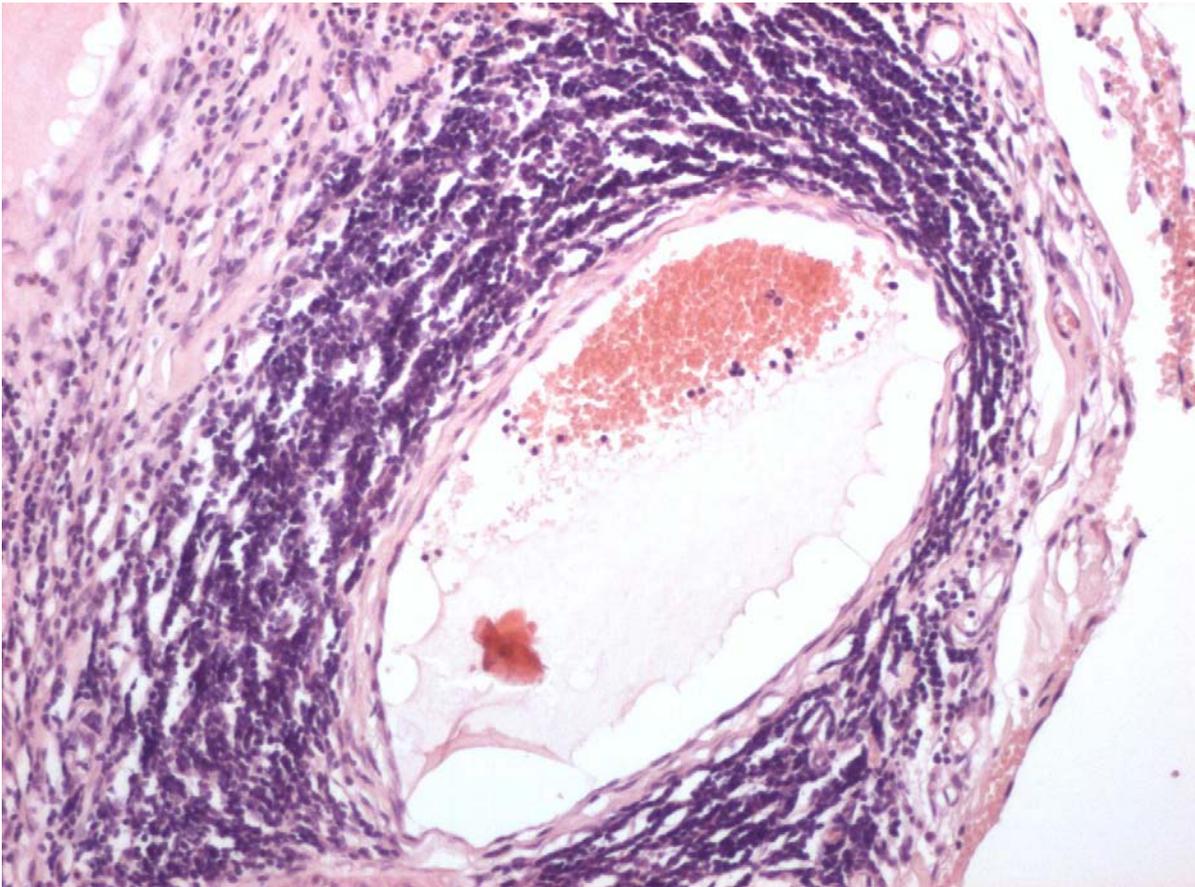


Fig. 5: Subcutaneous mass, perivascular lymphocytes, hematoxylin-eosin, 20X

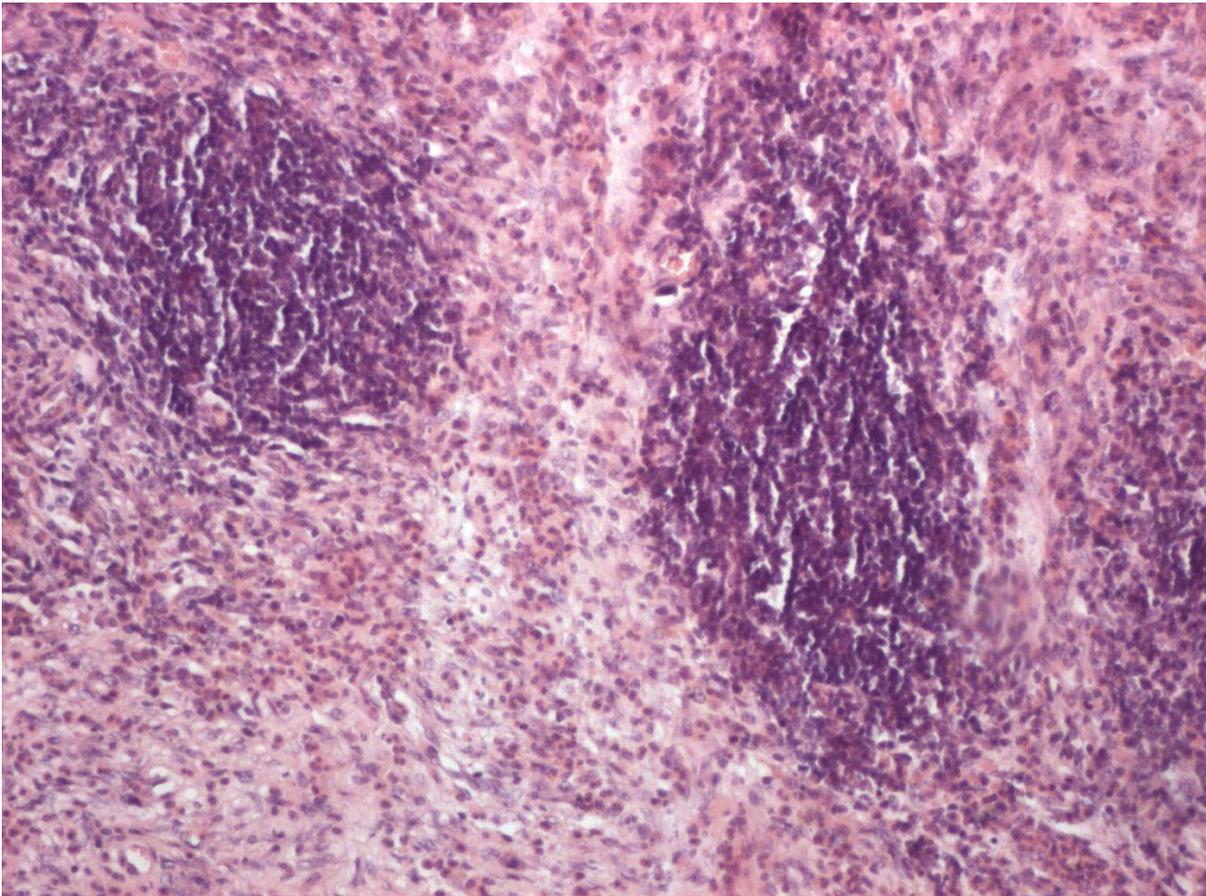


Fig. 5: Subcutaneous mass, hematoxylin-eosin, 20X

**Discussion:** The lesion resembled the so-called vaccine induced cutaneous pseudolymphoma described in man that is characterized by a reactive B cell proliferation associated with abundant histiocytes often in clusters. Pseudolymphoma is a term applied to a group of inflammatory to proliferative lesions that may be misdiagnosed as lymphoma as was in this case by cytology. In cats, arthropod bites and vaccination are probably the main triggers of pseudolymphoma. These lesions are mostly polyclonal (B or T) benign, self-limiting reactions induced by persistent antigenic stimulation. However, in some cases pseudolymphoma may evolve into cutaneous lymphoma.

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