

Diseases of the Feline Digit

The diseases that specifically target the feet of cats are completely different from those affecting dogs. Common canine digital syndromes like squamous cell carcinoma, lupoid onychodystrophy, melanoma, plasmacytoma, histiocytoma, and vasculitis are rare or nonexistent in cats. Instead, these independent felines once again "do it their way" with such peculiar diseases as eosinophilic granuloma, plasma cell pododermatitis, metastatic bronchial adenocarcinoma, and pemphigus foliaceus. Each of these is relatively common within a surgical biopsy practice, although none would be considered common in traditional veterinary practice. *These diseases are relatively few and they are so clinically distinctive that you should be able to diagnose them with a high degree of accuracy based exclusively on clinical characteristics.*

Eosinophilic collagenolytic granuloma is most familiar as an ulcerative-to-nodular lesion of the feline lip or palate, but a histologically identical lesion affects the footpads. Specifically, these present as antibiotic-resistant coalescing ulcers along the margins of one or more pads, often on several feet. Over 1/3 of cases occur in cats less than one year of age, and virtually all affected cats are less than 5 years of age. About 1/3 of the cases have concurrent lip, tongue, or palatine ulceration typical of eosinophilic granuloma.

Pemphigus foliaceus occurs as a crusting, pustular skin disease that most commonly affects the face (particularly, the ear pinnae)...and the digits. The digital involvement is very specific: pustular swelling of the nail beds with grossly visible pus or crusts. In contrast to eosinophilic granuloma, the foot pads are not usually involved. Virtually all of the cases that I have seen are from cats that have undergone chronic, unsuccessful treatment for suspected bacterial or fungal disease. *A reminder: cats almost never get bacterial skin disease, and the widespread use of antibiotics to treat a variety of skin diseases in this species is unwarranted.*

Histologic confirmation of the diagnosis using skin punch biopsies taken from skin right at the nail bed usually is quite straightforward, with large flat neutrophilic crusts and pustules containing the individualized acantholytic epithelial cells that are floating within this sea of nonlytic neutrophils. The problem is that this is a technically difficult area to biopsy. In about 70% of cases, submitting the desiccated pus or the crusts for histologic evaluation can confirm the diagnosis because the neutrophils and acantholytic cells usually remain quite well preserved. Cytologic evaluation of smears made from the pus is less reliable, but worth a try.

Plasma cell pododermatitis is an enigmatic and uncommon disease with a distinctive and repeatable clinical presentation: multiple pads on multiple feet (almost always including the main metacarpal / metatarsal pads) become soft, "putty-like", and develop a violet discoloration. They seem painful, but most of the cases do not present with outright ulceration. The histologic diagnosis is easy because these cases exhibit remarkably little variation from the classical theme of massive diffuse plasmacytic infiltration below the intact epithelium. The pathogenesis of this lesion (like so many feline skin diseases) remains completely unknown.

Bronchial adenocarcinoma metastatic to the digit seems like an improbable and rare diagnosis, but in fact this is a relatively frequent syndrome reported worldwide. The usual clinical presentation is of multiple painful / swollen footpads on multiple feet in an old cat (mean age of 14 years) that otherwise seems healthy. There is virtually never clinical evidence of the primary bronchial tumor at the time the cat first presents for lameness. Although this tumor eventually undergoes widespread metastasis to many organs, *the footpads are inexplicably the preferred targets.* As seen in core or larger excisional biopsies, the footpad contains numerous invasive acinar / tubular structures that have ciliated columnar epithelium.



The proliferating tumor stimulates abundant fibrosis, and creates a footpad that is swollen and hard. The prognosis is terrible because widespread random metastasis is inevitable.

Digital soft tissue sarcoma (fibrosarcoma, giant cell tumor of soft tissue) is the most common digital neoplasm in cats. It affects older cats (mean of 10.1 years) and presents as a proliferative osteolytic lesion affecting a single digit. I have received no follow-up information about metastatic potential, but these look like high-grade anaplastic sarcomas. If their behavior follows the pattern of other such sarcomas, they should be locally destructive, have a high risk of local recurrence, but negligible metastatic potential.

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