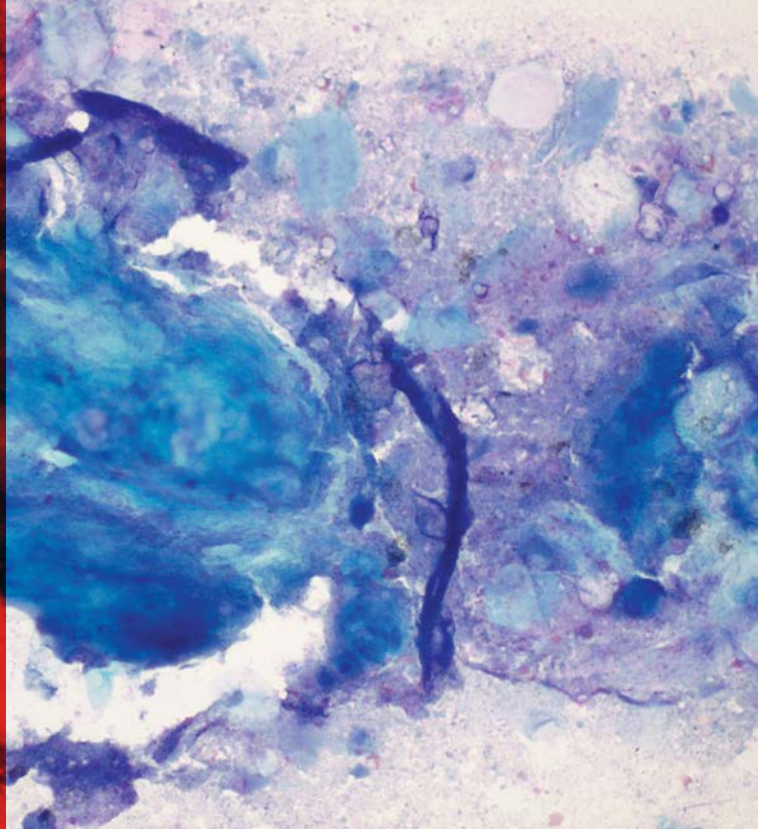


Cutaneous & Subcutaneous Neoplasms

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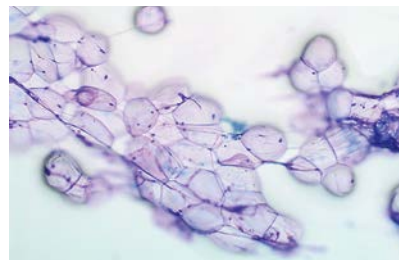


Fine-needle aspiration and cytologic evaluation of cutaneous and subcutaneous masses are inexpensive and provide rapid results. In many cases, these techniques can differentiate benign from malignant neoplasia and define further diagnostic and treatment options.

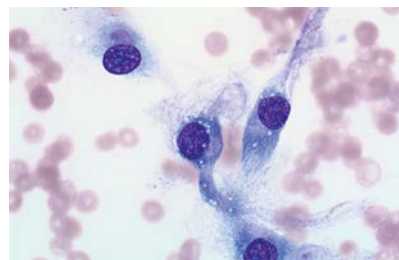
In this challenge, match each case description and intermediate- to high-magnification cytologic image to the appropriate diagnosis.* Check your answers on pages 84 and 85.

Case Descriptions

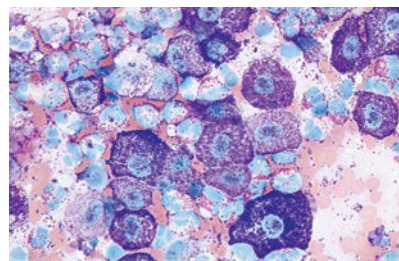
1 A 6-year-old golden retriever was presented with a soft, freely movable mass on the right flank. The mass has been slowly growing over the past 6 months. (40× objective)



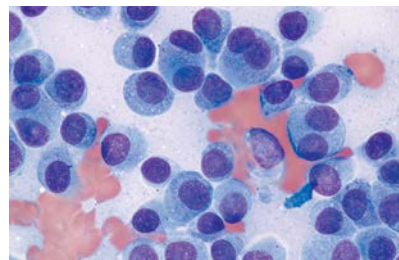
2 An 8-year-old crossbreed dog was presented with a firm, fixed subcutaneous mass over the right hip. The mass has been growing rapidly over the past 2 months. (100× objective)



3 A 3-year-old Boston terrier was presented with a firm, hairless, erythematous mass on the muzzle that has been present for 1 month. Swelling, erythema, and pruritus are also present in the area. (60× objective)

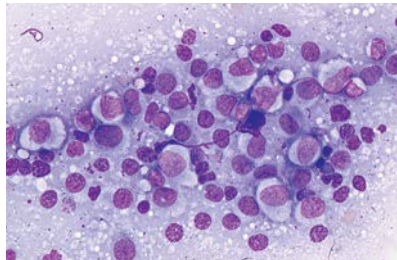


4 A 9-year-old West Highland white terrier was presented with a small, smooth, pink cutaneous nodule that his owners first noted 2 weeks ago. (100× objective)

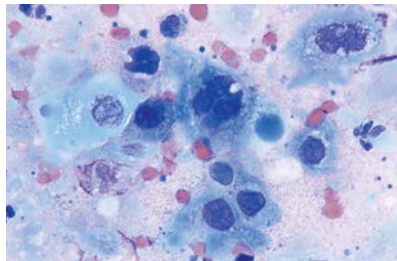


*All slides stained with Wright-Giemsa.

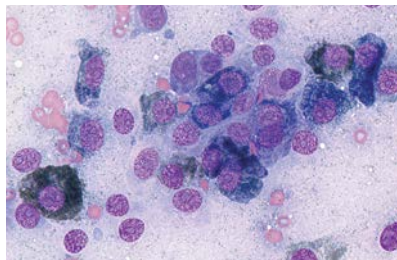
5 A 2-year-old crossbreed dog was presented with a small, hairless, rapidly growing mass at the base of the right pinna. The mass is not bothersome to the dog. (60× objective)



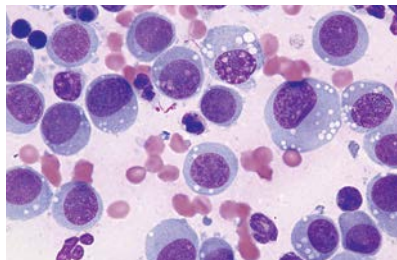
6 A 9-year-old white domestic shorthaired was presented with an ulcerative raised lesion at the tip of the left pinna. Pruritus is present, and the mass bleeds occasionally. (100× objective)



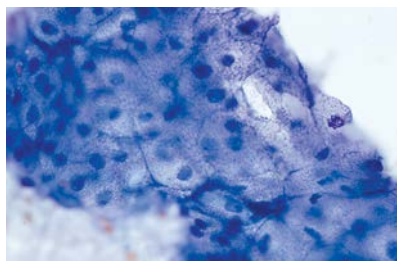
7 A 5-year-old chow chow was presented with a raised, hairless, pigmented mass on the left dorsal carpus. The mass has been present for 4 months and is slowly increasing in size. (60× objective)



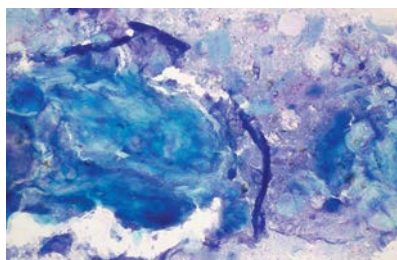
8 A 6-year-old, outdoor-only, intact, crossbreed dog was presented with a red, poorly circumscribed penile mass that is erythematous and ulcerated. (100× objective)



9 A 12-year-old cocker spaniel was presented with a 5-mm, hairless, raised cutaneous mass that has been present for 4 months. Similar masses are present on the dog's head and neck. (60× objective)



10 An 8-year-old German shepherd dog was presented with a 1-cm, soft, fluctuant, cutaneous mass of the caudal dorsum. The mass has been present for 1 month and has not changed in size since first noted. (40× objective)



DIAGNOSIS

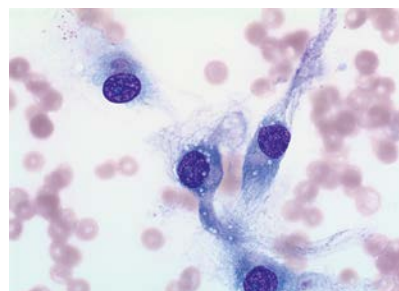
- Squamous cell carcinoma
- Lipoma
- Soft tissue sarcoma
- Epidermal inclusion cyst
- Sebaceous adenoma
- Mast cell tumor
- Transmissible venereal tumor
- Melanoma
- Plasmacytoma
- Histiocytoma

ANSWER KEY

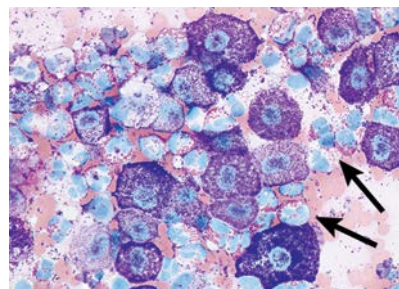
1 Lipoma. Note the clusters of large round cells that display small, peripheral nuclei and a single clear lipid vacuole. Lipomas are benign in behavior; excision should be considered if appropriate based on location and growth rate.



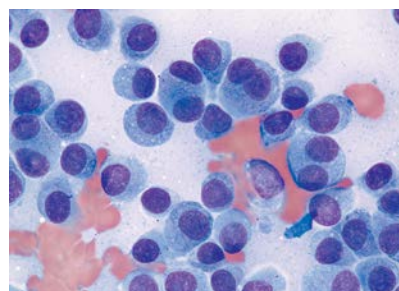
2 Soft tissue sarcoma. Sarcomas tend to exfoliate poorly, and cells are often noncohesive. Cells are typically spindle-shaped with indistinct cytoplasmic borders and round-to-ovoid nuclei. The criteria for malignancy noted here are anisocytosis, anisokaryosis, and multiple prominent nucleoli. Soft tissue sarcomas are locally invasive with metastatic potential determined based on histopathologic grade.



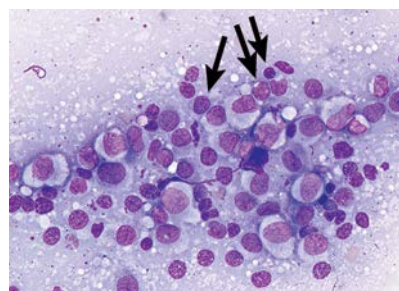
3 Mast cell tumor. Mast cell tumors are usually distinguished by numerous round cells with distinct purple granules. Eosinophils (*arrows*) and spindle-shaped mesenchymal cells are sometimes found intermixed. Cytologic criteria for malignancy are not always present, and histopathology is required for grading. Treatment recommendations and prognosis are grade-dependent.



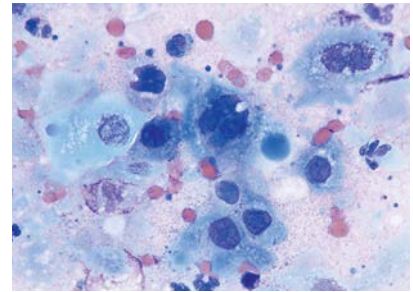
4 Plasmacytoma. A population of round cells can be seen, with distinct blue cytoplasmic borders, eccentric nuclei, slightly clumped chromatin, and variably distinct paranuclear clear zones (representing the Golgi apparatus). Multiple nuclei are commonly seen in plasmacytoma cytology specimens. Surgical excision is the treatment of choice for solitary plasmacytomas.



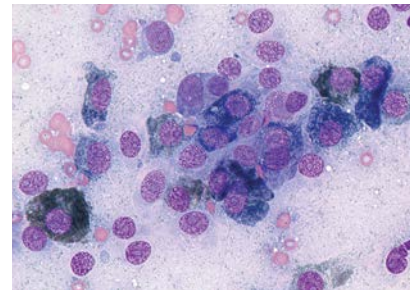
5 Histiocytoma. This round cell population shows clear or pale-blue cytoplasm, central nuclei, and fine-to-reticular chromatin. Lymphocyte infiltration (*arrows*) and mitotic figures are commonly seen. In most cases, the neoplasm will regress within 4 to 8 weeks of presentation.



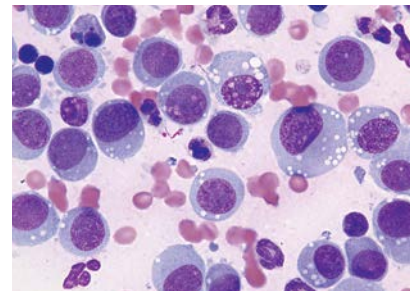
6 Squamous cell carcinoma. A population of cohesive, angular epithelial cells can be seen with variably basophilic cytoplasm, fine perinuclear vacuolation, and 1 or multiple variably sized nuclei. Ultraviolet light plays a role in the induction of squamous cell carcinomas in white-colored cats. Surgery is the recommended treatment when feasible, although new lesions may develop in any area exposed to ultraviolet light.



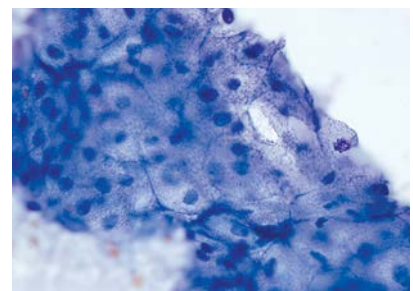
7 Melanoma. This image shows a population of spindle-shaped-to-rounded cells that contain fine brown-to-dark-green granules representing melanin. Malignant melanomas may have a round, epithelial, or mesenchymal cell appearance and do not necessarily contain melanin granules. Histopathology is indicated to distinguish benign from malignant cutaneous melanoma. Most melanomas of the haired skin in dogs are benign, and indices such as mitotic index can assist in differentiation.



8 Transmissible venereal tumor. Noted here is a distinct population of round cells with central or eccentric nuclei, coarse chromatin, prominent nucleoli, and numerous small discrete cytoplasmic vacuoles. Most dogs with transmissible venereal tumor will respond to vincristine chemotherapy with an excellent prognosis.



9 Sebaceous adenoma. Seen here are clumps of large epithelial cells with foamy cytoplasm and small, condensed (darkly staining) nuclei. Cells and their nuclei are uniform in size, and resemble normal sebaceous cells. No criteria for malignancy are present. These masses are benign in nature. Surgical excision is recommended if the mass changes in size or shape or begins to bother the dog.



10 Epidermal inclusion or follicular cyst: Abundant amorphous basophilic cellular debris is present along with mature, anucleate squamous cells. Surgical excision may be indicated in some cases if the cyst is bothersome to the dog or changes in size or shape.

