

Question

An 11-year old female spayed Siamese cat presents for further evaluation after developing a mass over the scapular region. The mass is approximately 2cm in diameter. An aspirate of the mass confirms your suspicion, what is your surgical plan?

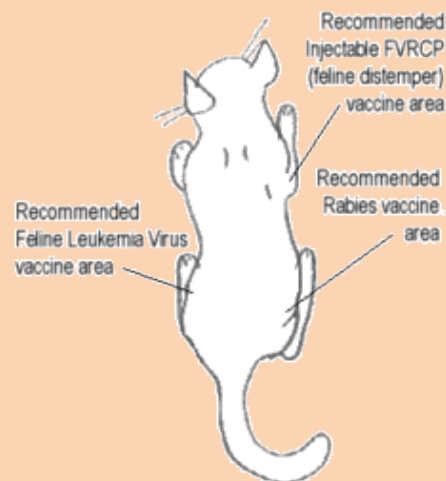
- Excisional biopsy
- Excision with 1 cm margins
- Excision with 2 cm margins
- Radical excision of the mass

Explanation - This is a probable **vaccine associated fibrosarcoma**. These tumors are slow to metastasize but extremely aggressive locally. A radical excision of the mass will be your best opportunity at a surgical cure. All other answer choices will likely result in poor margins and recurrence.

A **vaccine-associated sarcoma (VAS)** is a type of malignant tumor found in which has been linked to certain vaccines. These sarcomas have been most commonly associated with rabies and feline leukemia virus vaccines, but other vaccines and injected medications have also been implicated. VAS appears as a rapidly growing firm mass in and under the skin. The mass is often quite large when first detected and can become ulcerated or infected.

Diagnosis of VAS is through a biopsy. The biopsy will show the presence of a sarcoma, but information like location and the presence of inflammation or necrosis will increase the suspicion of VAS. It is possible for cats to have a granuloma form after vaccination, so it is important to differentiate between the two before radical surgery is performed.

X-rays are taken prior to surgery because about one in five cases of VAS will develop metastasis, usually to the lungs but possibly to the lymph nodes or skin.



Treatment of VAS is through aggressive surgery. As soon as the tumor is recognized, it should be removed with very wide margins to ensure complete removal. Treatment may also include chemotherapy or radiation therapy.

The most significant prognostic factor is initial surgical treatment. One study showed that cats with radical (extensive) initial surgery had a median time to recurrence of 325 days versus 79 days for cats with marginal initial excision

Question

A 8-year old Siamese cat presents to you with a single 2 cm skin mass on top of his head that is well circumscribed, hairless, dome-shaped and fixed to the overlying skin but freely movable from underlying fascia. The mass has been present for months and has been slowly growing. What is the most likely diagnosis?

- Basal cell tumor
- Cutaneous lymphosarcoma
- Mast cell tumor
- Squamous cell carcinoma

Explanation - The correct answer is basal cell tumor. [This is the most common skin tumor in the cat \(about 20% of all feline skin tumors\)](#). These tumors are usually hairless, dome-shaped, raised masses as described. They are most frequently found on the head, neck, and shoulders. They are almost always benign although histologically, they may have aggressive characteristics.

NB: the most common skin neoplasm in dogs is **Mast cell tumor**.



Question

A male neutered 12-year old domestic short hair cat presents for right forelimb persistent lameness of one month duration. The cat is a strictly indoor cat and has no other health problems. The owners feel he has been progressively worsening over the last week and his appetite is reduced. An orthopedic exam isolated his pain to the proximal humerus and radiographs showed a lytic lesion consistent with osteosarcoma. You offer to perform an amputation and the owners want to know his prognosis after amputation. What is his prognosis after amputation alone?

- 3 months
- 4 weeks
- 12 months or more
- 6 months

Explanation - Cats with appendicular osteosarcoma have a much better prognosis than dogs with osteosarcoma due to a lower rate of metastasis. Some papers site a survival time of over 2 years, but a more recent study sited approximately 12 months. In comparison, dogs with appendicular

osteosarcoma have a median survival time of approximately 3-4 months with amputation alone. Metastasis to the lungs in dogs is usually the reason for death.

The most common primary bone tumor of the appendicular skeleton is osteosarcoma. Primary appendicular osteosarcomas are generally solitary aggressive lesions originating in the metaphyseal region of long tubular bones. In the pectoral limb, the proximal humerus and distal radius are sites frequently affected by osteosarcoma. In the pelvic limb, the most common sites are the distal femur, proximal tibia, and distal tibia.

Osteosarcomas can be predominantly osteolytic (Fig. 73-2), a mixture of osteolytic and osteoblastic (Fig. 73-3), or predominantly osteoblastic (Fig. 73-4).



FIG. 73-2 Craniocaudal radiograph of the distal femur in which a predominantly osteolytic osteosarcoma can be seen. The distal medial cortex is expanded and contains focal areas of destruction.



FIG. 73-3 Lateral radiograph of the distal antebrachium in which a radial osteosarcoma characterized by a mixture of osteolysis and osteosclerosis can be seen.

Question

A 12-year-old female spayed domestic long hair cat presents for consultation on a mass found on her ventral abdomen. The mass was noticed about a month ago and has grown slightly since it was first found. On physical exam, the mass is firm, painless, and measures 4 cm in diameter. The remainder of the physical exam is normal. You perform a fine needle aspirate of the mass, which shows mammary carcinoma. What is your next step?

- Wide surgical excision of the mass
- Adriamycin chemotherapy
- Thoracic radiographs
- Fine needle aspirate of the axillary lymph node
- Punch biopsy of the mass
- Conservative surgical excision of the mass

Explanation - Thoracic radiographs should be performed to stage the cat for metastasis prior to deciding on treatment. Although greater than 90% of cats with mammary carcinomas eventually develop metastasis, even the short-term prognosis would be considered poor if pulmonary metastasis were present. Surgery should not be performed if that were the case. Generally, the recommended treatment for cats that have not shown visible metastasis would be unilateral mastectomy to remove all of the glands on the affected side. This has been shown to reduce the risk of recurrence.

The lymph nodes of the cat are normal based on physical exam, so the axillary lymph node would not be palpable and it is unlikely that it could be aspirated. An additional biopsy would not give much more information to the case since the aspirate was definitive for a mammary carcinoma.

Mammary Cancer in Cats

In cats, mammary cancer is the third most common cancer, with the most common victim being a senior female cat around age **10 to 12 years**.

Dogs are lucky as only about **50%** of mammary tumors are malignant for them. **For cats, approximately 90% are malignant** with rapid spread to adjacent glands and the nearest set of lymph nodes. Cats generally have eight mammary glands. The most commonly affected glands are the **thoracic** and **inguinal** glands.

At first the tumor is small and may feel like a pebble or dried pea. The tumor should be removed as soon as possible in hope of removing it completely. If left alone, mammary tumors get larger and harder and ultimately burst through the skin creating a smelly, infected ulcer.

Tumors removed when they are less than 2 cm in diameter have a median survival time of 4.5 years.

Tumors removed that are greater than 3 cm in diameter have a 6-month median survival time.

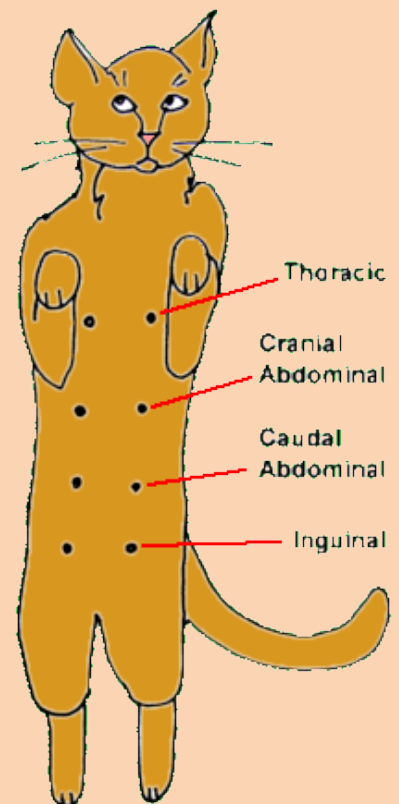
Tumors spread from the mammary glands to local lymph nodes and then on to the chest, brain, bone, and even spleen. Expect chest radiographs to assess tumor spread to the lung to be needed before surgery can proceed.

Early spay is the single most significant protective factor. Spaying before age 6 months results in a 91% reduction in risk. Spaying before age 1 year results in an 86% reduction in risk. Spaying before age 2 years leads to an 11% reduction in risk. Having given birth to kittens has no effect on mammary cancer risk. Spaying after age 2 years does not reduce the risk of mammary cancer development at all.

Treatment: Surgery

The first step in treatment is surgical removal of as much of the tumor as possible. This means removing not just the affected mammary glands but the entire chain of mammary glands on that side.

Aggressive surgery yields a disease free interval of 1 year in about 50% of cats and 2 years in 32% of cats.



Question

A 10-year old female spayed Siamese cat presents for a new **lump** the owner found a month ago. She was spayed last year before she was adopted from the shelter. The owner states that the lump has grown over the last month, and it doesn't seem to bother the cat. On exam, the 2 cm lump is located on the left 2nd mammary gland, and no other lumps are noted. The lump is freely moveable, and chest radiographs are clear. What is the chance that this tumor is malignant?

- 50%
- 20%
- 85%
- 5%

Explanation - 70-90% of all feline mammary tumors are malignant. Spaying a cat before 6 months of age reduces the risk for mammary tumors by 7 fold.

The statistics for dogs is a 50:50 chance of malignancy for a single mammary mass.

Question

A 10-year-old male neutered domestic short hair cat presents for progressive **vomiting** of 3 weeks duration. On physical exam, you palpate a firm mass in the abdomen. Ultrasound of the abdomen reveals a 3cm irregular mass in the jejunum with effacement of the normal intestinal layering. There are also multiple mildly prominent mesenteric lymph nodes around the mass. What is the next best step?

- Recommend chemotherapy
- Exploratory surgery of the abdomen with mass resection
- Endoscopy with biopsies
- Tru cut biopsy of the mass
- Fine needle aspirate of the mass

Explanation - The cat most likely has some form of neoplasia. The most common forms of intestinal cancer in cats are lymphoma (large and small cell), carcinoma or adenocarcinoma, and mast cell tumor. A fine needle aspirate is often an effective way to obtain a diagnosis in the least invasive way possible.

A Tru cut biopsy of an intestinal mass carries too much risk for potential perforation of the intestines causing peritonitis.

Exploratory laparotomy may be indicated if the fine needle aspirate is non-diagnostic or inconclusive, but if lymphoma is diagnosed, surgery is not typically recommended unless the cat has an intestinal obstruction. If lymphoma is diagnosed, chemotherapy would be the indicated form of treatment.

Chemotherapy should not be recommended until a more definitive diagnosis has been made.

An endoscope generally would not be able to sample from the jejunum.

Question

Which of these characteristics of a skin mass are suggestive of a benign rather than a malignant mass in a cat?

- Rapid growth
- Ulceration
- Fixed to underlying tissues
- Well circumscribed

Explanation - The correct answer is well circumscribed. Although the only way to say definitively is with microscopic examination, in general, benign tumors are well circumscribed, slow-growing, with minimal inflammation incited. Malignant tumors tend to have more ill-defined margins, grow faster, have more associated inflammation, may ulcerate, and tend to be fixed to underlying tissues.

Question

A 12-year old female spayed Persian cat is presented to you for a 4 cm mass on the dorsal neck. On exam, the mass is a firm, freely movable, subcutaneous mass that is hairless and appears slightly melanotic. You take thoracic radiographs and bloodwork which are unremarkable. You perform a marginal excision and submit the mass for histopathology which comes back as a basal cell carcinoma that is completely but narrowly excised and has a high mitotic rate of 25 per 10 high-powered fields (400x). What should you recommend for adjunct treatment and follow-up?

- Wider excision of tissue around the surgical field
- External beam radiation therapy
- Observation of the site for recurrence
- Chemotherapy with doxorubicin

Explanation – The correct answer is Observation of the site for recurrence. Basal cell tumors are common in older cats and most (greater than 90%) display benign behavior, even when histologically malignant with a high mitotic rate. If the tumor is diagnosed by cytology or histopathology without surgical removal, many veterinarians will recommend monitoring without surgical removal although these masses can ulcerate or get fairly large.

Question

Which of these chemotherapeutic drugs cause fatal pulmonary edema in cats?

- Vincristine
- Doxorubicin
- Carboplatin
- Cisplatin
- 5-Fluoruracil

Explanation - The correct answer is cisplatin. The famed statement, "cis-plat splats cats" is quite appropriate. 5-fluorouracil is also contraindicated for use in cats, but it is neurotoxic. Carboplatin, vincristine and doxorubicin are all used in cats.

Question

Which surgical procedure is recommended for cats with a mammary carcinoma?

- Simple mastectomy (mammectomy)
- Unilateral chain mastectomy
- Regional mastectomy
- Lumpectomy

Explanation - The correct answer is unilateral chain mastectomy. Due to the fact that most mammary masses in cats are malignant with a high chance for metastasis, radical unilateral mastectomy is often indicated to help reduce the rate of recurrence of tumors in mammary tissue on the same side.

Question

A 13-year-old female spayed domestic short hair cat presents for progressive ptyalism and halitosis. On anesthetized oral exam, you find the sublingual lesion seen in the image below. Which of the following differential diagnoses is most likely and appropriately matched with its prognosis?



- Eosinophilic granuloma complex. Prognosis is poor with treatment
- Squamous cell carcinoma. Prognosis is good with treatment
- Bacterial granuloma. Prognosis is poor with treatment
- Squamous cell carcinoma. Prognosis is poor with treatment
- Eosinophilic granuloma complex. Prognosis is guarded with treatment

Explanation - The top differential for a mass lesion of the tongue of an older cat is squamous cell carcinoma. Other differentials including eosinophilic granuloma complex, FIP granuloma, fungal granuloma, and bacterial granuloma are much less common.

Squamous cell carcinoma is a locally aggressive form of neoplasia that is associated with a **poor prognosis** unless it is caught very early (usually as an incidental finding). Median survival times for cats with this disease are about **2 months with only 10% still living 1 year after diagnosis**.

Eosinophilic granulomas are thought to be a hypersensitivity reaction and the prognosis is thought to be good with treatment and identification of an underlying cause.

Question

What is the treatment of choice for a primary lung tumor in a cat?

- Lung lobectomy
- Chemotherapy and radiation therapy
- Chemotherapy
- Radiation therapy

Explanation - The correct answer is lung lobectomy. Radiation is not a treatment modality of choice because normal lung tissue cannot withstand the doses of radiation needed to kill tumor cells without serious consequences. Chemotherapy may have some benefit but is probably only very useful as adjuvant therapy with surgery.

Question

A 16-year old, male-neutered cat comes in for further evaluation of intermittent vomiting and anorexia. The cat has a history of renal insufficiency and hyperthyroidism. Both of these are currently being managed well according to the owner. On physical exam the patient is found to be slightly lethargic and perhaps a little dehydrated. After performing blood work there is still no clear indication as to why the patient is not feeling well. The BUN was 42 mg/dl and creatinine 2.0 mg/dl. The rest of the chemistry panel was unremarkable. The CBC showed a hematocrit of 25 which has been longstanding.

An abdominal ultrasound was performed and a mass associated with the pancreas was identified. The 2cm mass was at the mid-body of the right limb of the pancreas. Chest radiographs were subsequently performed and found to be within normal limits. The owners elected to take the cat for removal of this mass. Which post-operative concern is least likely?

- Patient should be monitored closely for increased vomiting and abdominal pain
- Renal values should be monitored closely for signs of acute or chronic renal failure
- Bilirubin levels should be monitored closely for signs of extrabiliary obstruction
- Hypoglycemia post-surgery, which needs close blood glucose monitoring

Explanation – The correct answer is Hypoglycemia post-surgery, which needs close blood glucose monitoring. When performing mass resections of the pancreas the ideal situation is a mass associated with the tail of the pancreas. Otherwise they can be very difficult to excise in their

entirety and you run the risk of disrupting the flow of pancreatic enzymes into the duodenum. The pancreas is responsible for secreting insulin which is what stimulates glucose to be removed from the blood stream and taken into the cell. A patient with a mass in the pancreas that is causing hypoglycemia has an insulinoma (seen in dogs). Removal of an insulinoma can occasionally lead to hyperglycemia and diabetes mellitus requiring insulin administration in dogs, but there is no indication of an insulinoma based on the normal blood glucose level on the chemistry panel indicated in the question.

Manipulation of the pancreas can result in pancreatitis and if the inflammation is severe enough an extrahepatic biliary obstruction could occur and result in elevated bilirubin levels. Extrahepatic biliary obstructions secondary to pancreatitis can require surgical intervention. Clinical signs of pancreatitis will likely manifest themselves in the form of persistent abdominal pain and vomiting.

Since this patient has renal insufficiency it is important to monitor renal values closely. Remember that it takes about 75% of the kidneys to be damaged before the values go up so any elevation in renal values may be cause for alarm. This is particularly important if the patient was hypotensive during surgery and renal perfusion was potentially compromised.

Question

Which of these is not recommended in vaccinating cats due to the risk of vaccine induced sarcomas?

- Reduce frequency of vaccination
- Use non-adjuvanted vaccines when available
- Vaccinate intramuscularly
- Vaccinate in a distal limb

Explanation - The answer is to vaccinate intramuscularly. Vaccine-associated sarcomas are thought to be associated with inflammation at vaccine sites and possibly associated with **adjuvants**, particularly aluminum-based **adjuvants**. The frequency is estimated to be about 3 tumors per 10,000 vaccines administered. Intramuscular vaccination is not recommended because tumors that develop intramuscularly will not be diagnosed until later because they will be hidden; they will also potentially be deeper and more difficult to excise. Distal limb vaccination is recommended due to the ability to determine which vaccine may have been the cause, and because mass excision or limb amputation is more feasible than removing deep intrascapular masses.

Question

Which of the following statements is FALSE regarding vaccine associated fibrosarcomas in cats?

- If a nodule appears at a vaccine injection site, it should be removed and submitted for histopathology if it is present longer than 3 months or if it is greater than 2cm in diameter
- The incidence of vaccine associated sarcomas is 1:100,000

- Sites of chronic inflammation, such as those that are induced by adjuvanted vaccines, have been implicated in causing vaccine associated sarcomas
- Rabies purevax is not adjuvanted; however, unlike adjuvanted rabies vaccines, it needs to be boosted yearly versus every 3 years

Explanation – The correct answer is the incidence of vaccine associated sarcomas is 1:100,000. The incidence of vaccine associated sarcomas is generally reported to be 1:10,000. Adjuvant is a substrate added to vaccines to stimulate the immune system. This is added frequently to killed antigen vaccines. It is not uncommon for an inflammatory nodule to develop at the injection site. However, as long as it is small and recedes within 3 months, it is not considered to be a problem. It is thought that promotion of local inflammation has been a major factor in development of some vaccine associated tumors. Rabies purevax is a live canarypox vaccine engineered to contain rabies DNA.

Question

An 11-year old female intact domestic short hair cat presents for a consultation on a previously excised mammary carcinoma. The owner asks about using cisplatin chemotherapy in her cat. Which of the following should you tell the owner about cisplatin in cats?

- Cisplatin causes renal toxicity in cats
- Cisplatin causes severe nausea without premedication of antiemetics in cats
- Cisplatin causes neurotoxicity in cats
- Cisplatin causes fatal pulmonary edema in cats
- Cisplatin does not work for mammary carcinomas in cats

Explanation - The pulmonary edema typically occurs immediately with administration of the drug to cats. Cisplatin causes renal toxicity as well as nausea in dogs, but the fatal pulmonary edema is by far the most relevant side effect in cats.

Question

A cat comes to your clinic non-weight bearing on the right rear leg. Radiographs reveal a large lytic and proliferative bone lesion affecting the proximal tibia. What do you advise the owner?

- This is most likely synovial cell sarcoma as it is the most common bone tumor in cats
- If this is osteosarcoma, it is slow to metastasize in cats (unlike dogs) and some cats are cured with amputation
- This is unlikely to be osteosarcoma, as it rarely affects the hind limbs in cats



Explanation – The correct answer is If this is osteosarcoma, it is slow to metastasize in cats (unlike dogs) and some cats are cured with amputation. Bone tumors are relatively rare in cats, but the most common bone tumor in cats is osteosarcoma. In cats, osteosarcomas are slow to metastasize so amputation in many cases can be curative. Osteosarcomas are most commonly found in the hind limbs in cats.

Question

Which of these is not a round cell tumor that could be seen in a cat?

- Basal cell tumor
- Mast cell tumor
- Lymphoma
- Plasma cell tumor

Explanation - The answer is basal cell tumor. Basal cell tumors are epithelial tumors (epithelioma/carcinoma). The round cell tumors include lymphoma, mast cell tumor, plasma cell tumor, histiocytoma, transmissible venereal tumor, +/- melanoma and certain neuroendocrine tumors depending on which definition you are reading.

Question

What is the most common oral tumor in cats?

- Melanoma
- Lymphoma
- Squamous cell carcinoma
- Epulides

Explanation - The correct answer is squamous cell carcinoma. SCC is the most common feline oral tumor followed by fibrosarcoma. In dogs, the most common oral tumors are melanoma, SCC, fibrosarcoma, and epulides.

Question

According to recommendations by the Vaccine-Associated Feline Sarcoma Task Force, which of these is the appropriate protocol for vaccinating a cat?

- Rabies vaccine given in distal left rear leg, FeLV vaccine given in distal right rear leg, no vaccines should be given in intrascapular space
- Rabies vaccine given in distal right rear leg, FeLV vaccine given in distal left rear leg, all other vaccines should be given in intrascapular space
- Rabies vaccine given in proximal left rear leg, FeLV vaccine given in proximal right rear leg, all other vaccines should be given in intrascapular space
- Rabies vaccine given in distal right rear leg, FeLV vaccine given in distal left rear leg, no vaccines should be given in intrascapular space
- Rabies vaccine given in distal right front leg, FeLV vaccine given in distal left front leg, no vaccines should be given in intrascapular space

Explanation - The correct answer is rabies vaccine given in distal right rear leg, FeLV vaccine given in distal left rear leg, no vaccines should be given in intrascapular space. These recommendations were made to facilitate earlier diagnosis and easier treatment of vaccine-associated fibrosarcomas in cats. They also were made to allow findings to be correlated with which vaccine(s) was (were) causing the tumors. It was recommended that other vaccines be given in the distal right front leg.

Question

An 11-year old female spayed Siamese cat presents for consultation on a mass found on her ventral abdomen. The cat was previously used for breeding and was just spayed and adopted by her owner 4 years ago. The mass was noticed about a month ago and has grown slightly since it was first found. The mass is firm, painless, and measures 3 cm in diameter. You perform a fine needle aspirate of the mass, which shows a proliferation of abnormal appearing epithelial cells most suggestive of a mammary carcinoma. What is the cat's prognosis?

- The cat's long-term prognosis is good only if she is treated with chemotherapy after surgery

- The cat's long-term prognosis is good since most mammary carcinomas in cats do not metastasize
- The cat's long-term prognosis is poor since most mammary carcinomas in cats will metastasize
- The cat's long-term prognosis is poor because surgery is ineffective at treating these tumors

Explanation - Mammary tumors in cats are almost always malignant and the large majority of them will eventually metastasize. This is in contrast to mammary tumors in dogs, in which 50% are malignant, and 50% of those that are malignant will eventually metastasize. Similar to dogs, cats that are spayed after they have had one or more heat cycles have a much greater risk of developing mammary tumors.

If staging shows no visible evidence of metastasis, treatment is generally aimed at surgical removal of the tumor followed by chemotherapy to try and slow the development of metastasis. Generally, the type of surgery that is recommended is a unilateral mastectomy to remove all of the glands on the affected side to reduce the risk of recurrence in those glands. The tumor is also greater than 2 cm in size, which is associated with a worse prognosis in cats.

Question

This 2 year-old female spayed Siamese cat presents for further evaluation of the masses seen in the image. The patient was recently rescued and there is no other history available. On physical examination, there are no overt abnormalities appreciated other than the masses visualized. A fine needle aspirate is performed and consistent with a mast cell tumor. Given the breed, the histiocytic subtype is suspected. Which of the following is the most appropriate treatment plan if the owners don't have unlimited funds?



- Excise the nodules while obtaining a minimum of 1cm margins
- These lesions will regress with a 4 week treatment of radiation therapy
- Excise the nodules with a minimum of 3 cm margins and one fascial plane deep
- Monitor as the lesions will most likely spontaneously regress

Explanation - Contrary to cutaneous mast cell tumors in dogs, young Siamese cats (less than 4yr) with the histiocytic subtype of mast cell neoplasia will typically have their tumors spontaneously regress. Therefore, as long as the patient is not suffering it is reasonable to wait for these to resolve on their own. In general, it is safe to say that feline mast cell neoplasia is much less aggressive than is seen in dogs. Cutaneous mast cell tumors do not need the aggressive surgical margins that are typically recommended for Grade II or III canine mast cell tumors. Furthermore, follow up radiation therapy is rarely indicated.

Question

Coat color and sun exposure likely predisposed this cat to developing the tumor seen in the photo.



- Basal cell tumor
- Mast cell tumor
- Melanoma
- Squamous cell carcinoma

Explanation - The correct answer is squamous cell carcinoma. White cats or cats with areas of white fur on the face or ears are predisposed to developing squamous cell carcinoma from UV light. These lesions are usually ulcerative and appear around the nose, ears, or eyelids.

Question

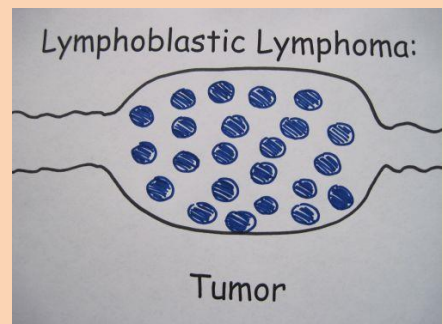
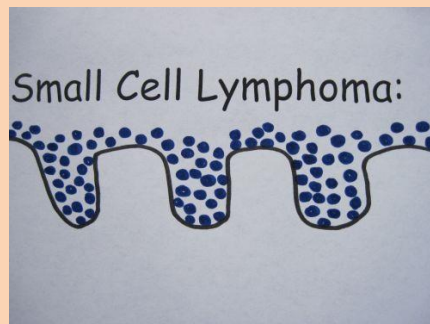
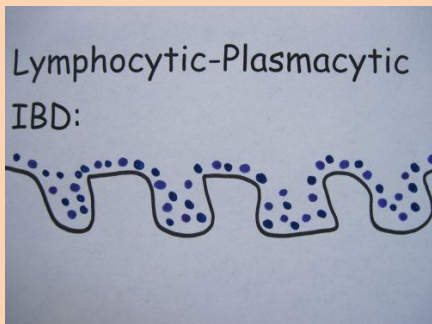
A 12-year-old female spayed Siamese cat presents for weight loss and progressive vomiting of 2 months duration. On physical exam, the intestines feel diffusely thickened and the cat has a body condition score of 2/9. Blood work shows a low albumin of 1.9 g/dL (normal 2.4-3.9 g/dL), and normal kidney and thyroid values. Abdominal ultrasound confirms the diffusely thickened intestines. There are also several mildly prominent and hypoechoic mesenteric lymph nodes. You suspect the cat has cancer. What is the most appropriate treatment for the type of cancer you suspect in this patient?

- Chlorambucil and prednisolone
- Radiation therapy
- Cyclophosphamide, vincristine, doxorubicin, and prednisone
- Surgical resection

Explanation - The cat most likely has small cell or low-grade intestinal lymphoma based on the history and clinical findings. This is considered an indolent or slowly progressive form of lymphoma and can be effectively treated with **chlorambucil and prednisolone**. This form of lymphoma is sometimes thought to develop from the progression of inflammatory bowel disease in cats. Chlorambucil is an oral alkylating agent that is usually well tolerated with few side effects. Many cats can live several years with this form of lymphoma and this treatment.

Cyclophosphamide, vincristine, doxorubicin, and prednisone are the drugs in a CHOP chemotherapy protocol used to treat dogs and cats (and people) with high grade or large cell lymphoma, which more commonly manifests as a large focal mass rather than diffusely thickened intestines.

Surgery and radiation therapy are not good treatment options due to the diffuse nature of the cancer.



Question

A 12-year old female spayed Himalayan cat presents to you for acute onset of left hind limb lameness after leaping off of the counter to the floor this morning. The cat is non-weight bearing and very painful around the left stifle. You take a radiograph (shown below). Which of the following conclusions can you make about the cat's injury?



- The cat has a bone tumor that will likely metastasize within 6 months if she is not given chemotherapy
- A pathologic fracture occurred when the cat jumped off of the counter
- Strict rest appears to be all that is needed because the bony structures appear normal
- This fracture could be reduced and surgically plated or would heal after 8 weeks with strict confinement with external coaptation

Explanation - A pathologic fracture occurred when the cat jumped off of the counter. There is marked osteolysis of the proximal tibia with a pathologic fracture. This fracture will not heal with either rest or with rigid fixation due to the presence of underlying disease that resulted in the osteolysis. The most likely cause is a tumor of the bone. In cats, unlike dogs, many bone tumors do not have a high metastatic rate and do not necessarily require adjunct chemotherapy although histopathology would be needed to confirm the tumor type and grade.

Question

You are examining a white cat with an ulcerative lesion along the lower eyelid. The owner reports that he thinks it is an old fight wound, but it has been there for 6 months and seems worse than it did initially. What is the most likely cause of this lesion?

- Inflammation
- Hyperplasia
- Neoplasia
- Trauma

Explanation - The correct answer is neoplasia. This is a classic history for squamous cell carcinoma. The only thing missing is a history of UV exposure. It is important to remember that even though this is a neoplasm, it is an ulcerative lesion rather than a proliferative one. Lack of pigmentation and UV exposure both lead to the lesions on the eye and ear margins. Depending on their size, they can be treated with surgery or radiation. If small enough, the treatment of choice is a single dose of radiation with a Strontium-90 probe which delivers high doses of radiation but does not penetrate more than a couple of millimeters and can only be used for small lesions.

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