Appearance and growth pattern vary depending on type of tumour and location. The most common cutaneous tumours in dogs are mast cell tumours, followed by lipoma, histiocytoma, perianal adenoma, sebaceous gland adenoma, squamous cell carcinoma, melanoma, fibrosarcoma, basal cell carcinoma and others.

Cutaneous tumours can be readily identified on clinical examination and palpation of the skin. All skin lesions should be documented on a 'body map' and aspirated for a cytological diagnosis. In the case of non-diagnostic cytology, biopsies should be performed on skin masses (excisional vs incisional), especially when they are growing, changing in appearance or irritating the patient. Immunohistochemistry or special stains might be necessary to determine the diagnosis in some cases. Further diagnostics, such as locoregional lymph node assessment and thoracic and abdominal imaging, should be considered depending on the diagnosis.

Surgical excision is the treatment of choice for most skin tumours. Detailed history and description of the lesion should be provided to the pathologist to maximize the chance of establishing the correct diagnosis. Radiation therapy can be considered for incompletely excised tumours. Other local treatments include: photodynamic therapy, cryosurgery, laser ablation and hyperthermia. Systemic treatment, such as chemotherapy, is indicated in some malignant skin tumours based on diagnosis, tumour grade, presence of nodal metastasis and other factors, which might increase the chance of tumour spread.

KEY LEARNING OBJECTIVES

- Describe types of cutaneous tumour based on cell of origin
- Determine the appropriate diagnostic and staging procedures for dogs with cutaneous tumours
- Establish an appropriate treatment plan based on the type of cutaneous tumour

MULTIPLE CHOICE QUESTIONS

1. Which is the most common cutaneous tumour of dogs?
 - (A) Histiocytoma
 - (B) Perianal adenoma
 - (C) Melanoma
 - (D) Mast cell tumour
2. Melanomas are a common type of cutaneous tumour. Where do melanomas generally metastasize to?
 - (A) Lungs and kidneys
 - (B) Kidneys and liver
 - (C) Lymph nodes and lungs
 - (D) Liver and lymph nodes
3. A 6-year-old female spayed Labrador Retriever presents to your clinic with a 3-cm diameter fluctuant soft tissue mass located on the left lateral thigh. The owner reports no clinical symptoms associated with the mass, however she is quite confident the mass was not present 4–6 months ago. The dog is otherwise healthy and you note no other abnormalities on full physical examination. What is the most appropriate next step?
 - (A) Inform the owner that the mass is most likely a lipoma given its texture and location
 - (B) Measure the mass with calipers, record it and attempt fine-needle aspiration
 - (C) Strongly recommend an excisional biopsy to document the type of tumour
 - (D) Discuss the high likelihood of cancer and its dismal prognosis

The tachypnoeic cat

Lindsay Kellett-Gregory

Respiratory distress in cats, as evidenced by tachypnoea and increased respiratory effort, can be life threatening and require immediate assessment and stabilization. Causes of respiratory distress may be considered as arising from distinct parts of the respiratory system:

- Upper airway disease
- Lower airway disease
- Pulmonary parenchymal disease
- Pleural space disease
- Thoracic wall injury
- Pulmonary thromboembolic disease
- Abdominal distension
- Respiratory look-alikes.

It is usually possible to distinguish between diseases in each of the respiratory categories based on history, breathing pattern and auscultation findings. The use of

patient-side ultrasonography has become extremely useful as a non-invasive diagnostic tool that can be easily performed and is typically well tolerated by the patient. Pleural space disease, either pleural effusion or pneumothorax, is readily identifiable. Assessment of the left atrial to aortic root ratio (LA:Ao) can rule in or out a diagnosis of congestive heart failure as a cause of respiratory signs. Lung ultrasonography, looking for evidence of 'wet-lung', can help differentiate lung disease with fluid infiltrates (such as cardiogenic oedema) from those without (such as feline allergic airway disease). Use of lung ultrasonography in the trauma patient is highly sensitive for the early detection of pulmonary contusions. Additional information as to the cause of the respiratory signs obtained using this approach can help target specific stabilization and therapy and ensure a rapid response to treatment.

Initial treatment of all cats with tachypnoea should consist of supplemental oxygen and ensuring minimal patient stress and handling. Any fluid therapy should be paused until volume overload is excluded from the possible causes in a hospitalized patient. More specific stabilizing therapies may be possible if the origin of the

What's your diagnosis

respiratory signs is known. Examples include thoracocentesis for pleural space disease, sedation and temperature control with possible intubation or tracheostomy for upper airway disease, bronchodilators and glucocorticoids for feline allergic airway disease, and parenteral frusemide for suspected cardiogenic oedema. If it is not possible to determine the location of the problem, it is recommended to treat for the treatable and to institute a single dose of frusemide, dexamethasone and terbutaline with trial thoracocentesis. Any concurrent look-alikes should also be addressed to improve the patient respiratory pattern.

Look-alike causes of tachypnoea are non-respiratory mechanisms. Examples include decreased oxygen delivery (shock, anaemia, hypoxaemia), metabolic causes (compensation for a metabolic acidosis, hyperthyroidism), neurological disease, drug effect (opioids) and environmental factors (fever, stress, anxiety, pain). Look-alikes are a diagnosis of exclusion and require full evaluation of the patient's history and clinical signs, and the absence of a respiratory cause of signs. If objective measures of oxygenation are available, look-alikes will have normal blood oxygen and levels since the problem is not respiratory in nature.

KEY LEARNING OBJECTIVES

- Be able to recognize respiratory distress and localize the origin to a part of the respiratory system

- Know which non-invasive patient assessment tools to use to differentiate between the common causes of respiratory distress in cats
- Be able to list non-respiratory look-alike causes of tachypnoea in cats

MULTIPLE CHOICE QUESTIONS

1. What is the most common cause of respiratory distress in cats?
(A) Congestive heart failure
(B) Pyothorax
(C) Feline allergic airway disease
(D) Neoplasia
2. Which of the following thoracic focused assessment with sonography for trauma (TFAST) findings is consistent with the presence of a pneumothorax in a cat recently hit by a car?
(A) Confluent B-lines (C) Gator sign
(B) Absent glide sign (D) Presence of A-lines
3. Which of the following is not a cause of look-alike tachypnoea in cats?
(A) Paracetamol intoxication
(B) Haemoabdomen
(C) Phenobarbital overdose
(D) Diabetic ketoacidosis

Feline abdominal masses

Sarah L. Mason

Abdominal masses are a relatively common presentation in feline patients, often presenting with clinical signs which may include weight loss, inappetence, vomiting and diarrhoea.

The first step in diagnosis is to consider the likely differentials and ideally obtain baseline haematology and biochemistry to assess for red or white blood cell changes (common examples include: anaemia or lymphocytosis in cases of lymphoid neoplasia, hypoalbuminemia and anaemia if gastrointestinal haemorrhage, hyperglobulinaemia in feline infectious peritonitis (FIP)).

Initial investigation of the mass should include abdominal ultrasonography to confirm organ of origin, and fine-needle aspiration of the mass. Slides should be assessed for cellularity in-house to allow for maximum diagnostic capability and avoid a second procedure, however cytology is not always diagnostic. An alternative approach is to take a trucut biopsy. Ultrasonography will often give a good indication of the likelihood of successful resection and guide the decision to proceed with additional staging or surgery. For example, splenic masses are easily treated and diagnosed via splenectomy and histopathology, as opposed to multiple lymph node

masses where biopsy is more likely to be appropriate to differentiate between malignant neoplasia and other abdominal masses (e.g. granuloma).

The most common abdominal mass in cats is intestinal lymphoma. Staging should include testing for feline immunodeficiency virus and feline leukaemia virus, and thoracic radiographs if the budget permits. As lymphoma is a systemic disease, chemotherapy is indicated, regardless of staging and surgical intervention, and so arguably minimal staging is acceptable in financially challenged cases if it will not change a medical treatment plan. In some patients it is of benefit to excise the mass prior to chemotherapy, in the case of obstruction for example.

Other intestinal tumours in felines include carcinoma, mast cell tumour and sarcoma, and these can affect small and large intestine. Splenic and hepatic masses are uncommon in cats and can include mast cell tumour, lymphoid neoplasia and other malignant epithelial and mesenchymal tumours. Abdominal masses may also arise from mesenteric lymph nodes and other organs such as pancreas, bladder or adrenal gland.

Treatment and prognosis are highly variable depending on the aetiology and dissemination of the abdominal mass. Surgical excision is the most appropriate initial therapy for many localized masses and, while the role of chemotherapy is not well documented in non-lymphoid neoplasia, this potentially has benefit in both the adjunctive and gross disease setting. Surgical and medical treatment options will be illustrated using cases within this interactive lecture.