What's your diagnosis

The dog with epistaxis

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Epistaxis in dogs may occur due to an intranasal or systemic disease process. While it often happens as a single episode, when there is recurrent bleeding further investigations are warranted. Emergency treatment of epistaxis is rarely required, however in severe bleeding sedation of the patient and application of topical adrenaline with or without nasal tamponade should be considered.

A thorough diagnostic approach is essential as the cause of local disease (for example neoplasia, fungal infection, foreign body) or systemic disease (coagulopathy, hyperviscosity syndrome) influences the prognosis considerably. The most common local causes of epistaxis include fungal infections (aspergillosis) and neoplasia. A full clinical history, including the duration of epistaxis, whether the condition is unilateral vs bilateral, the presence of sneezing, travel history and other signs of systemic illness, will help narrow the differential diagnoses. Physical examination should focus on the presence of nasal airflow, nasal pain/asymmetry/pigment change, submandibular lymphadenopathy and evidence of a generalized coagulopathy, such as the presence of scleral or oral petechial haemorrhage.

Systolic blood pressure should be measured to exclude systemic hypertension as a cause of the epistaxis. A full haematology and biochemistry profile should be performed in all cases along with assessment of coagulation status. Elevated globulin levels raise the concern about hyperviscosity syndrome secondary to either an infectious or neoplastic process, and hypercalcaemia may be present in certain neoplastic conditions associated with the occurrence of epistaxis. Evidence of abnormalities of primary haemostasis (thrombocytopenia or thrombocytopathy) or secondary haemostasis (coagulation cascade) should prompt further investigations. Infectious disease testing should be based on travel history and changes identified on the screening blood work.

The standard radiographic examination of the nasal cavity consists of a lateral and a dorsoventral intraoral projection. The film should be placed corner first into the mouth to ensure that the caudal nasal chamber and cribriform plate are included. Significant soft tissue or destructive lesions may be identified on plain radiographic films, however the ideal modality for imaging the nasal cavity is contrast computed tomography (CT) scan. CT provides a thorough assessment of the nasal cavity and frontal sinuses. The nature and extent of the lesion can be more reliably assessed compared to

conventional radiography. The use of CT enhances the ability to differentiate inflammatory from neoplastic disease and to identify a destructive rhinitis at an earlier stage.

Rhinoscopy can be performed with either a rigid or flexible endoscope — the author's preference is to use a rigid scope for evaluation of the nasal passage and flexible endoscopy to evaluate the nasopharynx. Identification of lesions (fungal, neoplastic or inflammatory) and targeted biopsy can be performed along with removal of any foreign material. In nasal tumours a blind biopsy has been shown to be as reliable as a scope-guided or CT-guided biopsy.

KEY LEARNING OBJECTIVES

- Develop a logical approach to investigating epistaxis
- Develop an appropriate differential list based on clinical presentation
- Understand the indications for and basic technique of rhinoscopy

MULTIPLE CHOICE QUESTIONS

1. With regards to sinonasal aspergillosis, which of the following is correct?
 - (A) A positive serology blood test confirms the disease is present
 - (B) Oral therapy is the most successful treatment
 - (C) Destructive rhinitis is the most common finding on CT
 - (D) Fungal plaques are exclusively present in the nasal chambers
2. With regards to rhinoscopy, which of the following is correct?
 - (A) Rhinoscopy should be performed prior to diagnostic imaging
 - (B) In unilateral disease rhinoscopy should be performed on the non-affected side first
 - (C) Rigid rhinoscopy should be performed without the use of fluids
 - (D) In neoplastic conditions a scope-directed biopsy has been shown to be superior to a CT-guided biopsy
3. Which of the following conditions is the least likely to be associated with epistaxis?
 - (A) Neoplasia
 - (B) Aspergillosis
 - (C) *Leishmania* infection
 - (D) Cryptococcosis

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