

Epistaxis

Claire M McLarnon

Sean Carrie

Abstract

Epistaxis is extremely common and usually managed with simple first aid measures in the community. However it can also present with life-threatening haemorrhage which requires appropriate resuscitation and arrest of the bleeding. Of those patients presenting to local emergency services, knowledge of the assessment and management of epistaxis are essential. Epistaxis is classified as primary epistaxis, where no cause can be found or secondary epistaxis where there is a defined cause. It is also described in terms of the site of bleeding. Anterior bleeding from the nasal septum is found in 90% of cases and can be controlled with simple first aid measures or nasal packing and/or cautery. Posterior bleeding is more dramatic and may require a surgical procedure or radiological guided embolization. Many patients, particularly the elderly have associated co-morbidities and medications that need to be addressed along with the standard treatment. This article discusses the assessment and appropriate management of patients with epistaxis and their associated morbidities.

Keywords Anterior ethmoidal artery; endoscope; epistaxis; hereditary haemorrhagic telangiectasia; nasal cautery; nasal packing; sphenopalatine artery

Introduction

Epistaxis is defined as acute haemorrhage from within the nasal cavity including the nasopharynx. It is a common condition ranging in severity from a single short-lived episode to a less common life-threatening haemorrhage. The majority of cases are self-limiting and do not require medical intervention. Of those patients who do attend Accident and Emergency with an epistaxis, the vast majority can be managed in the A&E department. Referral to ENT is reserved for the minority of cases where the epistaxis is severe and/or there are other associated patient factors or co-morbidities requiring admission. Epistaxis is classified as primary epistaxis, where no cause can be found or secondary epistaxis where there is a defined cause for example nasal trauma.

Incidence

The reported incidence of an episode of epistaxis occurring during a lifetime is approximately 60%, with less than 10% requiring medical attention.¹ There is a bimodal distribution of epistaxis incidence with peaks in children and the older adult. Epistaxis is rare in children under the age of 2 years; however it

does occur more commonly in childhood with a peak incidence between the ages of 3 and 8 years. The peak incidence of epistaxis in adults is in 45–65 year olds in whom the incidence of severe posterior bleeding is greater.² The annual admission rate of adult epistaxis to otolaryngology wards in the UK is around 30 per 100,000 per year, however less than 10% of admitted patients go on to require a surgical procedure under general anaesthetic.³

Anatomy

Terminal branches of the external and internal carotid arteries supply the nasal cavity with frequent anastomosis between them on the nasal septum, lateral wall and midline. The anterior nasal septum is a particularly well-described site of anastomosis between the external and internal carotid arterial systems where an abundant plexus of vessels called Little's or Kiesselbach's area are found (Figure 1). This is the site at which up to 90% of epistaxis originates.

The branches of the external carotid artery supplying Little's area include terminal branches of the internal maxillary artery which are the sphenopalatine artery and the greater palatine artery. The other external carotid branch is the facial artery, which supplies the superior labial artery. The sphenopalatine artery enters the nose via the sphenopalatine foramen in the lateral nasal wall at the posterior end of the middle turbinate. It then branches to supply most of the nasal septum and much of the lateral nasal wall. The superior labial artery can be found entering the nose from below just lateral to the anterior nasal spine to supply the anterior nasal septum. This artery and the greater palatine are often overlooked as they need to be identified on or nearer the floor of the nose.

The internal carotid artery supplies the superior part of the nasal cavity by way of the ophthalmic artery which gives off the anterior and posterior ethmoidal arteries. These arteries run into the roof of the nose from the orbit via their respective anterior and posterior foramina. The posterior ethmoidal artery is smaller than the anterior ethmoidal artery. It is absent in approximately 20% of individuals and can be found only a few millimetres (2–5 mm) anterior to the optic nerve as it exits the optic canal, and about 10–12 mm posterior to the anterior ethmoidal artery. Knowledge of the course and branching patterns of these arteries is essential in the surgical management of epistaxis involving these vessels.

Aetiology

Most causes of epistaxis can be identified through a directed history and physical examination. The patient history should include details of the initial presentation of bleeding, previous bleeding episodes and their treatment, comorbid conditions, and current medications. Risk factors and causes of secondary epistaxis can be divided into local and systemic aetiologies (Table 1). Despite no obvious cause in primary epistaxis, it is well recognized that there is an increased frequency of epistaxis in the autumn and winter months.⁴ This correlates with changes in temperature and humidity, which may be the causative factors. It has also been found that there is a circadian rhythm, with peaks in incidence of epistaxis in the morning and late evening.⁵

Claire M McLarnon MB ChB MSc FRCS (ORL-H&N) is a Consultant ENT Surgeon at the Freeman Hospital, Newcastle upon Tyne, UK. Conflict of interests: none declared.

Sean Carrie MB ChB FRCS (ORL) is a Consultant ENT Surgeon at the Freeman Hospital, Newcastle upon Tyne, UK. Conflict of interests: none declared.

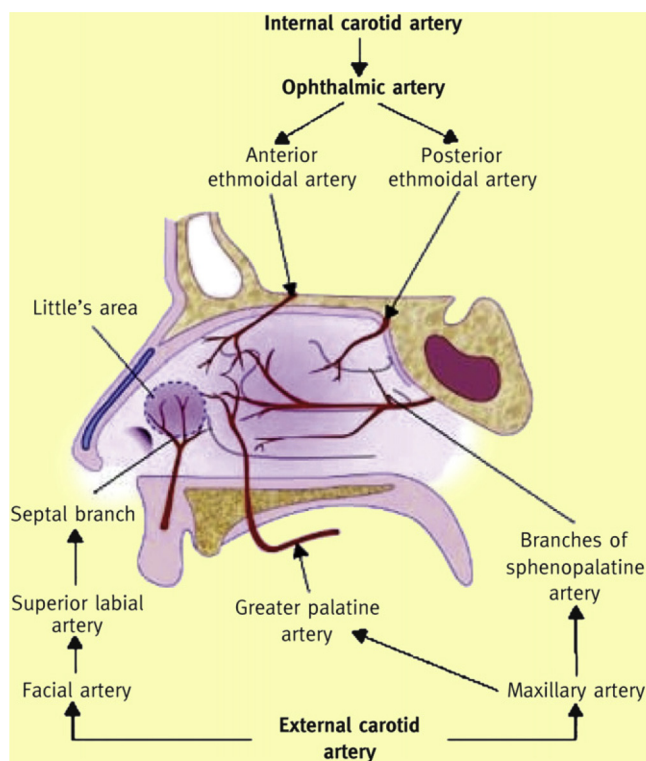


Figure 1 Anatomical sites for epistaxis.

Epistaxis in children

Epistaxis in children is common and often related to repeated digital trauma (nose picking) in combination with mucosal changes due to reduced humidification seen in the winter months. However some children get repeated nose bleeds with no specific cause (recurrent idiopathic epistaxis). Other common causes include nasal injury, recurrent upper respiratory tract infections, rhinitis and nasal foreign bodies. Epistaxis from more serious systemic conditions such as leukaemia or tumours within the nasal cavity is rare.

Clinical history and careful examination will direct the use of any further investigations to look for the less common and more serious causes. Common treatments in children include silver nitrate cauterization and/or a topical antiseptic cream application. A Cochrane review in 2012 recommended using the weaker strength of silver nitrate (75% vs 95%) to cauterize bleeding vessels in recurrent idiopathic epistaxis.⁶

Epistaxis in adults

The systemic causes of epistaxis are more relevant in adults with particular attention to the use of anti-coagulants. Hypertension is seen in many adults presenting with epistaxis however there is no good evidence of a direct role, and in most patients a raised blood pressure is due to anxiety of having a nose bleed. Trauma to the nose usually results in an associated epistaxis which in many cases stops spontaneously. Persistent heavy bleeding after trauma indicates an arterial cause most often from the anterior ethmoidal artery and sphenopalatine artery. Early reduction of a displaced nasal fracture can help, however the patient will most likely require a surgical intervention to stop the bleeding. Delayed bleeding of around 7 weeks following major facial

trauma may indicate a post-traumatic aneurysm. In elderly adults, particularly those with dementia repeated digital trauma is a recognized cause and keeping fingernails short can be a simple preventative measure. Chronic crusting and inflammation from repeated digital trauma can lead on to a septal perforation. Here troublesome recurrent bleeding is seen from both nasal cavities. Patients using regular intra-nasal steroid sprays, typically used in the treatment of rhinosinusitis; also have an increased risk of recurrent epistaxis.⁷ Epistaxis that is unilateral and recurrent should be referred on to an ENT specialist for endoscopic rhinoscopy and further investigation to exclude a tumour within the nasal cavity or nasopharynx.

History and initial assessment

The initial assessment of any patient presenting with bleeding should always start with checking their airway, breathing and circulation. A patient with persistent bleeding and a reduced conscious level as seen in alcohol/drug intoxication or head injury is at risk of aspirating and will require prompt action to protect the airway. A quick assessment of the vital signs and any available laboratory results should be done. Any haemodynamic compromise should be addressed urgently with intravenous access and fluid resuscitation. Most patients with epistaxis will not have any significant compromise; however special attention should be paid to the elderly and those patients with significant underlying cardiopulmonary disease. After ensuring the patient is stable a more in-depth history should then be taken. This should include: side of bleeding, duration, amount and frequency of bleeding, a judgment on amount of blood swallowed or spat up, any preceding trauma or precipitating causes. Any previous history of epistaxis and any previous treatments for it should be asked. The past medical history and current medications are also important especially with respect to the systemic causes given in [Table 1](#).

Examination

Before going to examine a patient it is important to remember to put on a disposable apron and gloves, and if available a surgical face mask and eye protection. Patients will be extremely anxious and it is always worth having an assistant with you to help support the patient and help with passing and holding equipment. Good lighting is essential and ideally a head light should be worn but if one is not available a bright torch, lamp or the auroscope can be used. Suction is a must and you should remember to provide a bowl and tissues for the patient who should be sat up preferably in a proper examination chair. If the bleeding has been controlled with first aid measures or stopped spontaneously then routine examination of the oropharynx to check for any on-going posterior bleeding or clots is done followed by anterior rhinoscopy. In patients that continue to bleed the examination is often combined with the management so as to stop or reduce bleeding to allow for a better assessment. Therefore it is important to make sure you have equipment and topical agents to hand before starting. Equipment should include nasal dressing forceps, nares dilators and a tongue depressor. In the scenario of a patient continuing to bleed, getting the patient to blow their nose and removing the clots with the sucker may enable you to see where the bleeding is coming from. If you

Download English Version:

<https://daneshyari.com/en/article/3838223>

Download Persian Version:

<https://daneshyari.com/article/3838223>

[Daneshyari.com](https://daneshyari.com)