

Definition

Epistaxis refers to nasal bleeding of any cause. Most epistaxis is minor and insignificant, but it may be severe and life threatening, and it can be indicative of more serious disease.

Technique

In obtaining a history of epistaxis the clinician should try to establish the quantity and frequency of bleeding, as well as to uncover any underlying factor that contributes to the problem. All bleeding occurs as a result of disruption of the intact nasal mucosa, whether due to trauma, inflammation, or neoplasm. Traumatic events would include nose picking, foreign body insertion, desiccation due to breathing poorly humidified air (common in winter months), cocaine snorting, and direct blunt trauma.

Because of social disapproval, a history of nose picking may be difficult to obtain, but other forms of trauma can usually be determined. Inquiries should be made as to the general health of the nose and the paranasal sinuses. Has there been an increase in nasal mucus production, and if so, what is the color, character, and quantity of the discharge? Is nasal obstruction present, and if so, is it acute or chronic? Are there any signs of sinus infection such as fever, facial pressure or pain, or pain in the teeth?

In many cases the actual cause of epistaxis cannot be obtained from the history. It is important, however, to consider whether or not conditions are present that may make the bleeding more severe. Does the patient have any clotting abnormalities, thrombocytopenia, or platelet dysfunction? Patients with hereditary hemorrhagic telangiectasia or Osler-Weber-Rendu syndrome often have debilitating nose bleeds and often give a positive family history for bleeding as well as a history of bleeding from other sources. Hypertension, often associated with epistaxis, does not cause nasal bleeding but certainly exacerbates the problem and makes control more difficult.

Basic Science

The nose acts as a conduit to allow air into the body but it also has a very well vascularized mucosa with a complex interior surface consisting of folds and irregularities. These characteristics provide a large surface area to warm and humidify inspired air. The blood supply of the nose comes from both the internal and the external carotid systems. The external carotid system provides blood supply through the maxillary artery to the sphenopalatine artery, which enters the nose near the posterior end of the middle turbinate and divides to supply both the septum and the lateral wall of the nose. These branches anastomose with branches of the anterior and posterior ethmoidal artery which come

from the internal carotid by way of the ophthalmic artery. One notable area of anastomosis is in the anterior portion of the septum in which a plexus of vessels known as Kieselbach's plexus is particularly vulnerable to digital as well as direct blunt trauma. These vessels run beneath a delicate mucosa that is supported by and tightly adherent to a rigid structure of bone and cartilage that provide little cushioning for traumatic forces. With these anatomic factors and con-

Table 124.1
Epistaxis; Causes and Contributing Disorders

Local Causes

- I. Trauma
 - A. Direct blunt trauma
 1. Facial fractures
 2. Intranasal lacerations
 - B. Digital trauma
 - C. Foreign body insertion
 - D. Mucosal desiccation
 - E. Chemicals
 1. Cocaine
 2. Ammonia
 3. Acid fumes
 4. Chromates
- II. Inflammation
 - A. Allergy
 - B. Infection
 1. Viral upper respiratory infection
 2. Sinusitis
 - C. Wegener's granulomatosis
 - D. Midline granuloma
 - E. Nasal polyps
- IV. Neoplasia
 - A. Papillomas
 - B. Esthesioneuroblastoma
 - C. Carcinoma of nose, sinuses, or nasopharynx
 - D. Juvenile angiofibroma

Contributing Factors

- I. Hemotologic disorders
 - A. Primary clotting abnormalities
 1. Hemophilia
 2. Von Willebrand's disease
 - B. Thrombocytopenia or platelet dysfunction
 1. Leukemia
 2. Thrombocytopenia purpura
 - C. Clotting abnormalities or platelet dysfunction with other diseases
 1. Hepatic disease
 2. Chronic renal failure
 - D. Drug-induced clotting abnormalities, platelet dysfunction, or thrombocytosis
 1. Salicylate
 2. Chemotherapy
 3. Coumadin therapy
- II. Vascular abnormalities
 - A. Hereditary hemorrhagic telangiectasia
 - B. Hemangioma
 - C. Arteriovenous malformation

sidering the prominent location and the projection of the nose on the face, it is easy to see why the nose is the most commonly fractured portion of the facial skeleton and why epistaxis frequently occurs as a result. Furthermore the nasal function of providing an inlet for the transmission of air into the respiratory tract makes the nose susceptible to drying, infection, and inflammation from outside environmental factors. It is little wonder that the nose is the most common site for spontaneous bleeding with the exception of the uterine cervix.

Clinical Significance

In most cases epistaxis occurs as an occasional event, is easily controlled by digital pressure, and is little more than a nuisance. This is usually the case in the younger patient. In the older patient, bleeding tends to be more posteriorly located in the nose and more difficult to control. It is im-

portant to recognize that nasal bleeding can be very severe and that life-threatening exsanguination can occur. The sine qua non of both diagnosis and control of bleeding is careful physical examination. A strong headlight or head mirror, nasal speculum, suction, and topical mucosal vasoconstriction are essential for identification of the bleeding site and to assess the general health of the nasal mucosa. Control of bleeding may require packing of the nose.

Table 124.1 lists local causes and contributing disorders of epistaxis.

References

- Sessions RB. Nasal hemorrhage. *Otolaryngol Clin North Am* 1973;7:27-44.
- Walike JW, Chin J. Evaluation and treatment of acute bleeding from the head and neck. *Otolaryngol Clin North Am* 1979;4:55-64.