# EPISTAXIS (Nosebleed)

# EPISTAXIS

**Epistaxis is a relatively common, usually harmless symptom that may reflect a number of diseases of variable severity.**

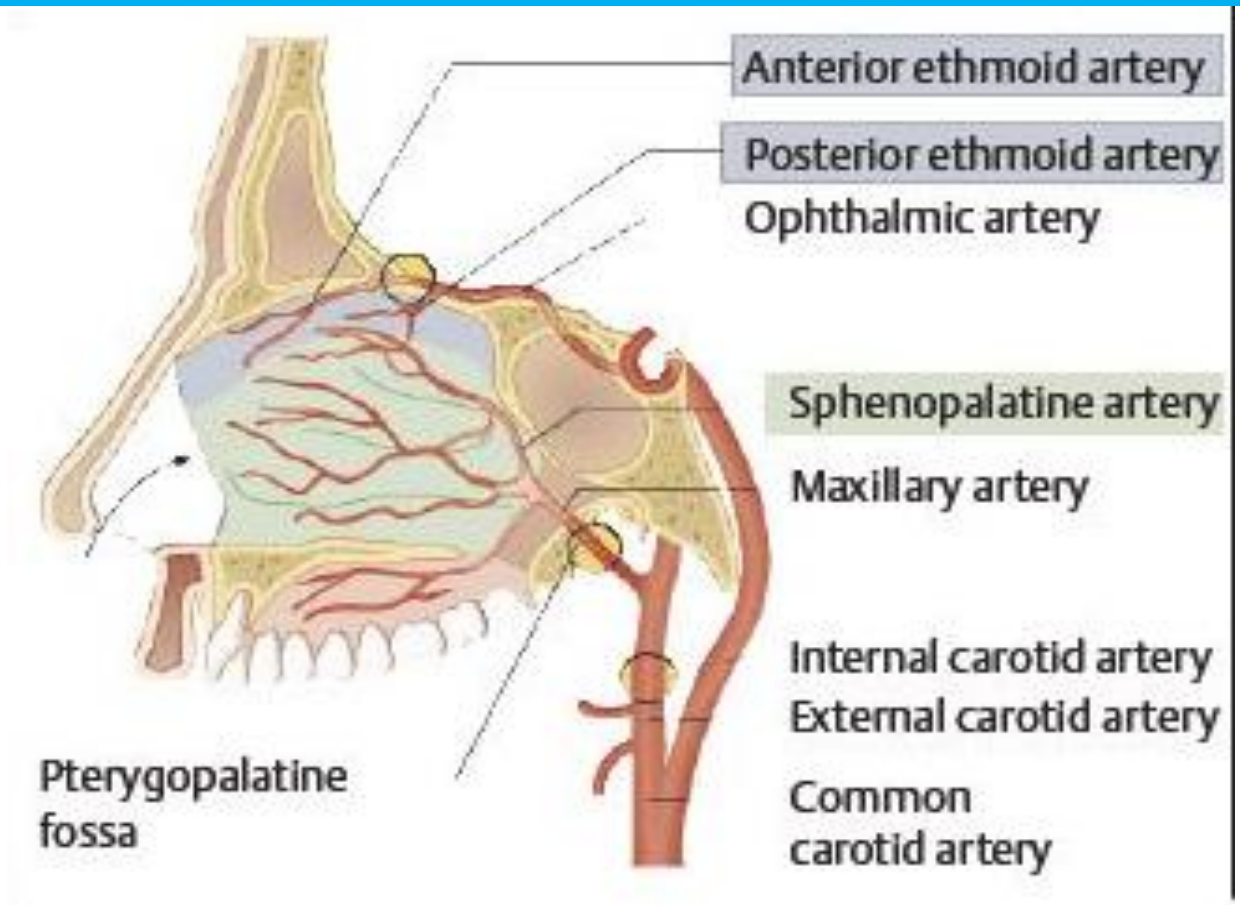
# EPISTAXIS

The most common site of bleeding is Kiesselbach's plexus in Little's area of the anterior portion of the septum.

Anterior bleeding is common in children and young adults as a result of nose blowing or picking.

In the elderly, arteriosclerosis and hypertension are the underlying causes of arterial bleeding from the posterior part of the nose.

# EPISTAXIS


Anterior ethmoid artery
Posterior ethmoid artery
Ophthalmic artery
Sphenopalatine artery
Maxillary artery
Internal carotid artery
External carotid artery
Common carotid artery
Pterygopalatine fossa

# ETIOLOGY

LOCAL CAUSES

Change in the nasal septum: Perforation: traumatic, iatrogenic, inflammatory; spurs or ridges.

Mucosal or vascular injury: Foreign bodies, rhinoliths, trauma (nose picking), allergy, acute rhinitis, traumatic aneurysm of the internal carotid artery (very rare)

Neoplasia: Benign and malignant neoplasms of the nose, paranasal sinuses, and nasopharynx, Juvenile angiofibroma
Granulomatous disorders

# ETIOLOGY

SYSTEMIC CAUSES
Vascular and circulatory diseases: Atherosclerosis, arterial hypertension

Infectious diseases Influenza, measles, typhus

Endocrine changes or diseases: Pheochromocytoma, pregnancy, diabetes mellitus

# ETIOLOGY

SYSTEMIC CAUSES

Hemorrhagic diathesis

• Coagulopathies

*Congenital:* e.g., hemophilia A and B, Willebrand disease *Acquired:* e.g., anticoagulant therapy, hepatocellular insufficiency

• Platelet disorders:

-Thrombocytopenias (Idiopathic thrombocytopenic Purpura), platelet proliferation disorders, platelet distribution disorders

-Thrombocytopathies

*Congenital*

*Acquired:* uremia, dysproteinemia, adverse effects of dextran and acetylsalicylic acid (ASA) therapy

• Vasopathies Schönlein–Henoch purpura, Osler disease (Hereditary haemorrhagic telangiectasia)

# ETIOLOGY

**Hereditary haemorrhagic telangiectasia (Osler's disease)**
gives rise to recurrent multifocal bleeding from thin-walled vessels deficient in muscle and elastic tissue

Figure 46.11 Osler's disease showing the multiple telangiectasia.

# DIAGNOSIS

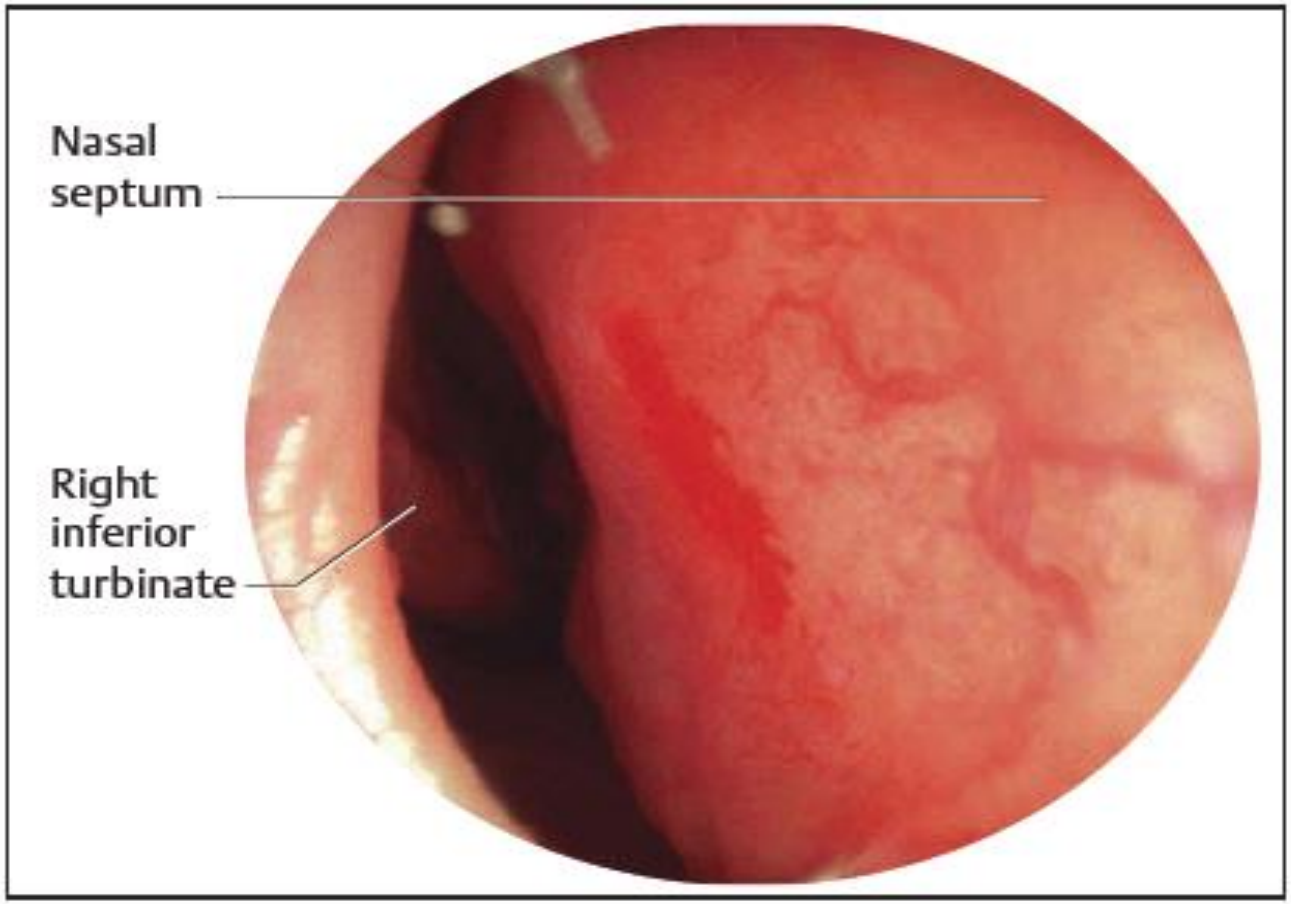
The diagnostic work-up begins with **blood pressure measurement**. Except in very minor cases, the Hb should also be determined, and a **coagulation disorder** should be excluded by determining the platelet count, bleeding time, thromboplastin time, Active partial thromboplastin time (APTT), and thrombin time.

# DIAGNOSIS

**Bleeding site:** The nasal cavity is inspected by anterior rhinoscopy or endoscopy following decongestion and local anesthesia of the mucosa. In most cases the bleeding site is in Kiesselbach's area.

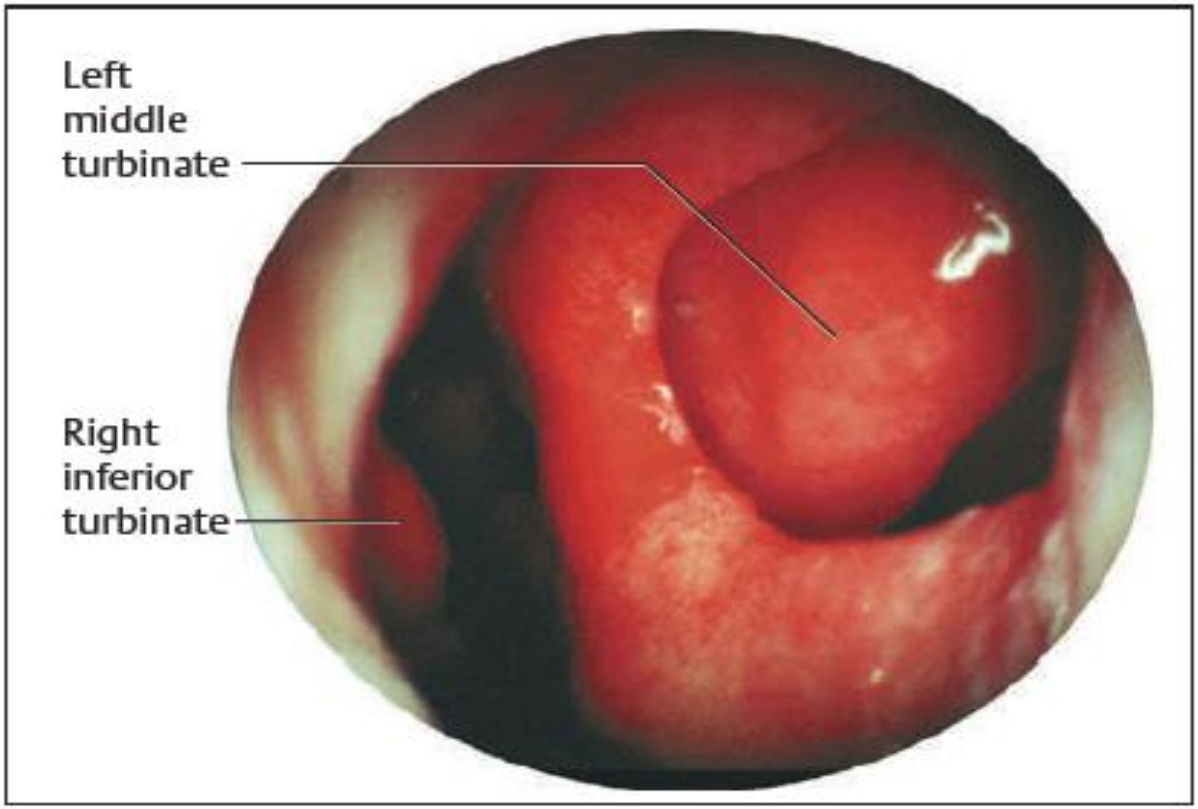
It can be difficult to locate the bleeding source, however, when there is profuse bleeding from the posterior parts of the nasal cavity, which are less accessible to inspection.

# DIAGNOSIS




Kiesselbach's area on the anterior septal mucosa is the site at which epistaxis typically occurs due to a local cause. The right inferior turbinate is visible in the background.

# DIAGNOSIS




The bleeding in this case is from the edges of a septal perforation. The endoscope was introduced into the right nasal cavity. The left middle turbinate and right inferior turbinate are visible in the background.

# DIAGNOSIS

**Juvenile angiofibroma** (is an uncommon condition that affects adolescent boys and may lead to massive life-threatening episodes of bleeding)

Diagnosis is made with contrast CT scanning or MRI. Anterior bowing or indentation of the posterior antral wall (Holman–Miller or antral sign) is the classical finding but may be seen in other expansive lesions in this area.

# MANAGEMENT

***General measures***

The nostrils are compressed against the nasal septum, and the patient is told not to swallow blood running down the pharynx.

The patient is kept in an upright posture to reduce blood flow to the head and inhibit the swallowing of blood. An ice bag can be placed on the back of the neck to induce reflex vasoconstriction.

An intravenous line should be placed if bleeding is severe.

# MANAGEMENT

***Silver nitrate cautery:*** Mild epistaxis from Kiesselbach's area can often be controlled by selective local cauterization of the bleeding site with silver nitrate.

Opposing sites on the nasal septum should not be cauterized due to the risk of septal perforation.

# MANAGEMENT

***Nasal packing:*** For severe epistaxis, the anterior nasal cavity can be packed with ointment-impregnated gauze strips or with ready-made foam packs that expand on contact with fluid. Both nasal cavities should always be packed in order to produce adequate counterpressure.


Treatment of a patient with epistaxis. Ointment-impregnated gauze strips are layered into both nasal cavities. An ice bag is placed on the back of the patient's neck.

# MANAGEMENT

- Intranasal packing should not remain in place for more than 2–3 days. Balloon catheters should be progressively deflated starting on the second day; otherwise they may cause irreversible tissue necrosis.
- Post-nasal packing may be required in refractory cases whereby a gauze pack is positioned in the nasopharynx under general anaesthesia.
- Endoscopic-assisted cautery or clipping of a posterior bleeding point can be an effective alternative to nasal packing.

# MANAGEMENT

- Alternatives to anterior nasal packing and complications. A double-lumen **balloon catheter** is introduced and inflated with water to produce local compression in the nasal cavity and nasopharynx.

- If the bleeding persists, a **posterior nasal pack (Bellocq pack)** can be inserted, but it should be used with caution due to the risk of aspirating the pads in the nasopharynx.

# MANAGEMENT

In Osler's disease, anterior nasal packing is best avoided, if at all possible,
because it is most likely to lead to further mucosal trauma and bleeding. High-dose oestrogen induces squamous metaplasia of the nasal mucosa and has been used effectively in treating this condition

# MANAGEMENT

*Systemic complications of anterior and posterior nasal packing:*

- Arterial hypoxia: fall of oxygen partial pressure with pulmonary dysfunction due to an impaired nasopulmonary reflux mechanism.
- Toxic shock: focal staphylococcal infection develops within 24 h after nasal packing, with generalized shock symptoms caused by bacterial toxins. Long-term mucosal hygiene should be maintained after the packing is removed.