

EPISTAXIS

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EPISTAXIS

Bleeding from inside the nose is called epistaxis. It is fairly common and is seen in all age groups- children, adults and older people. It often presents as an emergency. Epistaxis is a sign and not a disease per se and an attempt should always be made to find out any local or constitutional cause.



CAUSES OF EPISTAXIS

LOCAL

CONGENITAL :Unilateral choanal atresia,Meningocoele,Encephalocoele,Glioma.

ACQUIRED

INFECTIVE:

ACUTE:Viral rhinitis,nasal diphtheria, Bacterial,Fungal.

CHRONIC:

SPECIFIC: Tuberculosis,Syphilis,leprosy, rhinoscleroma

NON SPECIFIC: Ozaena.

INFLAMMATORY

Rhinosinusitis(allergic/vasomotor)

Nasal polyposis.



CAUSES OF EPISTAXIS

LOCAL TRAUMA

Iatrogenic: Finger nail trauma, hard-blowing of nose, violent sneeze.

Facial trauma: Fractures of middle third of face and base of skull.

Injuries of nose

Foreign body: Non-living: Any neglected FB, rhinolith. Living: Maggots, leeches.

Surgery: Intranasal

Atmospheric changes: High altitudes, sudden decompression (Caisson's disease).



CAUSES OF EPISTAXIS

IDIOPATHIC

Little's area

Superior part of nose

Middle meatus

Woodruff's plexus

NEOPLASTIC

BENIGN: Transitional cell papilloma, angiofibroma.

MALIGNANT: SCC, Adenocarcinoma, adenocystic carcinoma, olfactory neuroblastoma, melanoma, lymphoma.

DRUG INDUCED

Rhinitis medicamentosa (topical decongestants, cocaine)

INHALANTS

Tobacco, Cannabis, heroin, chrome, mercury, phosphorus, wood dust.



CAUSES OF EPISTAXIS

GENERAL

1.BLEEDING DISORDERS

A.COAGULOPATHIES

Coagulation factor deficiencies i.e factor VII(Haemophilia A,B) and factor IX deficiency, anticoagulants, Vit K deficiency, DIC.

B.PLATELET DISORDER

Thrombocytopenia, Platelet dysfunction

C. BLOOD VESSEL/BLOOD DISORDERS: Aplastic anaemia, leukaemia, thrombocytopenia and vascular purpura, haemophilia, scurvy, hereditary haemorrhagic telangiectasia.

D.HYPERFIBRINOLYSIS

E.LIVER, CVS & KIDNEY DISORDERS



CAUSES OF EPISTAXIS

2.DRUGS

Aspirin: Excessive use of analgesics(as for joint pains or headaches), anticoagulants therapy(for heart disease).

Anticoagulants

Chloramphenicol

Methotrexate

Immunosuppression

Alcohol

3.NEOPLASMS: Tumours of mediastinum (raised pressure in the nose).



CAUSES OF EPISTAXIS

4.IDIOPATHIC

Inflammatory disorders

Sarcoidosis

Wegener's

Lethal midline granuloma

5.OTHERS

Liver failure

Hypothyroidism

HIV

6.VICARIOUS MENSTRUATION :epistaxis
occurring at the time of mensrtruation.



SITES OF EPISTAXIS

LITTLE'S AREA:

This plexus was originally described by James Little in 1879. Situated $\frac{3}{4}$ th of an inch above the mucocutaneous junction in the antero-inferior part of nasal septum just above the vestibule.

- Little's area has the anastomosis of both external and internal carotid arteries.
- It has anastomosis of four arteries. This vascular plexus is called 'Kiesselbach's plexus' and is formed by
 1. Septal branch of sphenopalatine artery, also known as artery of epistaxis. It carries maximum blood to the nose.
 2. Anterior ethmoidal artery. Branch of ophthalmic artery which is a branch of internal carotid artery.
 3. Terminal branch of greater palatine artery.
 4. Septal branch of superior labial artery.



SITES OF EPISTAXIS

APPLIED IMPORTANCE

- This area is exposed to the drying effect of inspiratory current and to finger nail trauma, and is the usual site for epistaxis in children and young adults.
- Children have a tendency to scratch the nose, which causes bleeding from the Little's area. This is commonly known as "Epistaxis digitorum". Occasionally also seen in adults especially in summers.
- Little's area is also the commonest site of bleeding in hypertension.
- Hypertension is the commonest cause of bleeding in adults.



SITES OF EPISTAXIS

RETROCOLUMELLAR VEIN

This vein runs vertically downwards behind the columella, crosses the floor of nose and joins venous plexus on the lateral nasal wall, This is a common site of venous bleeding in young people. Venous bleeding from the retrocolumellar vein tends to occur in subjects under the age of 35 years, whereas arterial epistaxis occurs in older age. The duration of bleed is short lived in venous epistaxis, but is quite prolonged in bleeding of arterial origin.



SITES OF EPISTAXIS

WOODRUFF'S AREA

Naso-nasopharyngeal or Woodruff's area is a collection of rather large blood vessels found in many people situated under the posterior end of inferior turbinate where the sphenopalatine artery anastomose with the posterior pharyngeal.

These vessels appear to originate from the posterior pharyngeal wall and are venous in origin.

Posterior epistaxis may occur in this area.



SITES OF EPISTAXIS

SEPTAL TURBINATE

Represents an area(often visible on CT) of engorged vascular nasal mucosa on the septum. It may be unilateral or bilateral and can be a source of profound epistaxis. Its location may explain why a submucous resection cures some cases of septal epistaxis.



CLASSIFICATION OF EPISTAXIS

ANTERIOR EPISTAXIS

When blood flows out from the front of nose with the patient in sitting position.

POSTERIOR EPISTAXIS

Mainly the blood flow back into the throat. Patient may swallow it and later have a “coffee coloured” vomitus. This may be erroneously diagnosed as haematemesis.



DIFFERENCES BETWEEN ANTERIOR & POSTERIOR EPISTAXIS

		ANTERIOR	POSTERIOR
1	INCIDENCE	MORE COMMON	LESS COMMON
2	SITE	LITTLE'S AREA ANTERIOR PART OF LATERAL WALL	POSTERO-SUPERIOR PART OF NASLA CAVITY.
3	AGE	MOSTLY IN CHILDREN OR YOUNG ADULTS	AFTER 40 yrs OF AGE.
4	CAUSE	MOSTLY TRAUMA	SPONTANEOUS,OFTEN DUE TO HT OR ARTERIOSCLEROSIS
5	BLEEDING	USUALLY MILD,CAN BE EASILY CONTROLLED BY LOCAL PRESSURE OR ANTERIOR PACK.	SEVERE,REQUIRES HOSPITALIZATION,POSTNAS AL PACK.



IMPORTANT THINGS TO KNOW

Duration

Mode of onset: spontaneous or finger nail trauma.

Frequency of bleeding

Nature of blood-Fresh, clotted blood or blood stained.

Amount of blood loss :mild/moderate/severe.

Side of the nose from where bleeding is occurring..

Aggravating factors: sneezing,picking the nose, cleaning the nose.

Relieving factors: pressing the nose, rest,medication.

Whether bleeding is of anterior or posterior type.

Taking any drugs particularly analgesics,anticoagulants, aspirin, warfarin etc.

Intake of alcohol

History of known medical ailment (HT,leukaemias, mitral valve disease, cirrhosis, nephritis).

Bleeding from any other site.

- Bleeding disorder/tendency in the family
- Similar episodes in the past/previous episode.
- H/o facial trauma.



MANAGEMENT OF EPISTAXIS

1. GENERAL MEASURES

1. Make the patient sit up with a back rest and record any blood loss taking place through spitting or vomiting.
2. Watch for excessive swallowing movements.
3. Reassure the patient.
4. Mild sedation can be given.
5. Keep check on the Pulse ,BP and respiration.
6. Maintain haemodynamics. Blood transfusion may be required.
7. Antibiotics to prevent sinusitis, if pack is to be kept kept beyond 24 hours.
8. Intermittent oxygen may be required in patients with bilateral packs because of increased pulmonary resistance form nasopulmonary reflex.
9. Investigate and treat the patient for any underlying local or general cause.



MANAGEMENT OF EPISTAXIS

2.FIRST AID

ICE or COLD PACK: application on the bridge of the nose may arrest bleeding by reflex vasoconstriction.

PINCHING THE NOSE: for a minute keeps pressure on little' area,may stop the bleeding in many cases.

TROTTER'S PROCEDURE: rarely used for hypertensive epistaxis. The patient sits up, slightly inclined forwards with open mouth, and breathes quietly. He is not allowed to swallow the blood, but should spit it out. Forceful cleaning of the nose is avoided to prevent the clots from getting dislodged.



MANAGEMENT OF EPISTAXIS

3.LOCAL

A.CAUTERY: If the bleeding point is seen, it may be cauterised with 15% silver nitrate or 50% trichloroacetic acid.

Electrocautery may be used.

B.Nasal endoscopy may be utilised for identifying the cauterising point.



MANAGEMENT OF EPISTAXIS

4.ANTERIOR NASAL PACKING

Indicated if the bleeding is profuse and /or the site of bleeding is difficult to localise.

A ribbon gauze soaked in liquid paraffin is used.

About 1 meter gauze(2.5cm wide in adults and 12mm in children) is required for each nasal cavity.

First, few centimetres of gauze are folded upon itself and inserted along the floor, and then the whole nasal cavity is packed tightly by layering the gauze from floor to roof and from before backwards.Packing can also be done in vertical layers from back to the front.

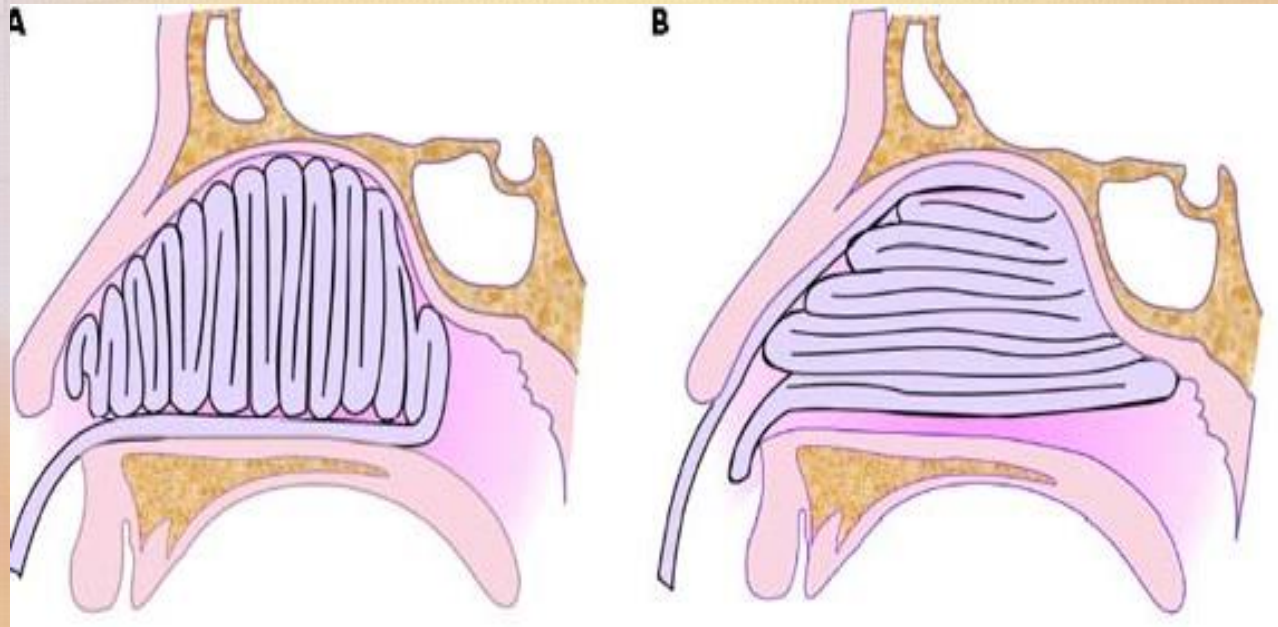
One or both cavities may need to be packed.

Pack can be removed after 24 hours if bleeding has stopped.

Systemic antibiotics should be given to prevent sinus infection and toxic shock syndrome.



ANTERIOR NASAL PACKING



POSTERIOR NASAL PACKING

5. POSTERIOR NASAL PACKING

Indicated for patients bleeding posteriorly into the throat or bleeding continuous in spite of anterior nasal packing.

Procedure is performed under GA after hospitalization.

A postnasal pack is first prepared.

Tie three silk ties to a piece of gauze rolled into the shape of a cone.

A rubber catheter is passed through the nose and its end brought out from the mouth.

Ends of silk threads are tied to it and catheter withdrawn from the nose.

Pack, which follows the silk threads, is now guided into the nasopharynx with the index finger.

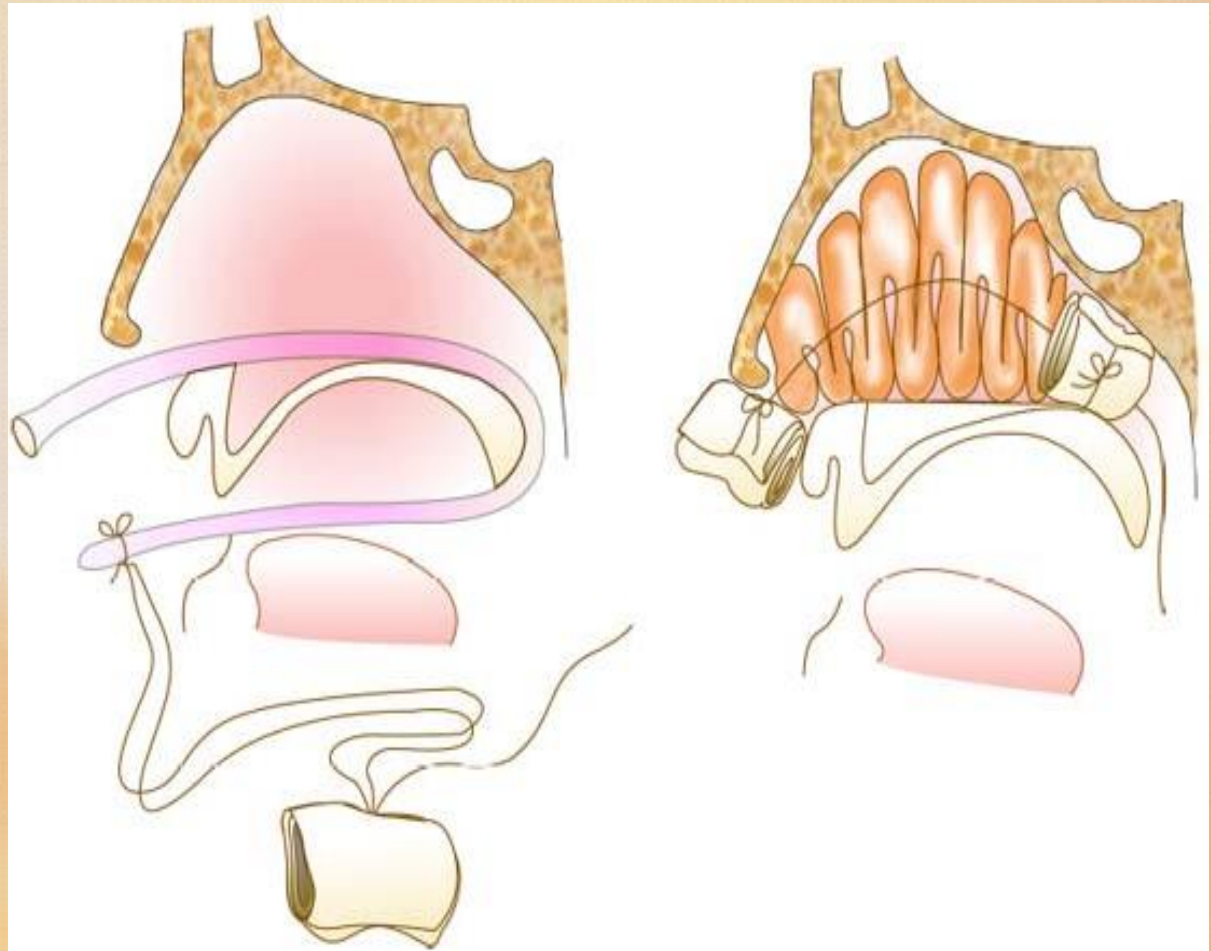
Tapes are tied in front of the nasal columella after protecting it with a piece of gauze.

Anterior packing is performed in addition.

The third silk thread is cut short and allowed to hang in the oropharynx.



POSTERIOR NASAL PACKING



FOLEY CATHETER

6.FOLEY CATHETER

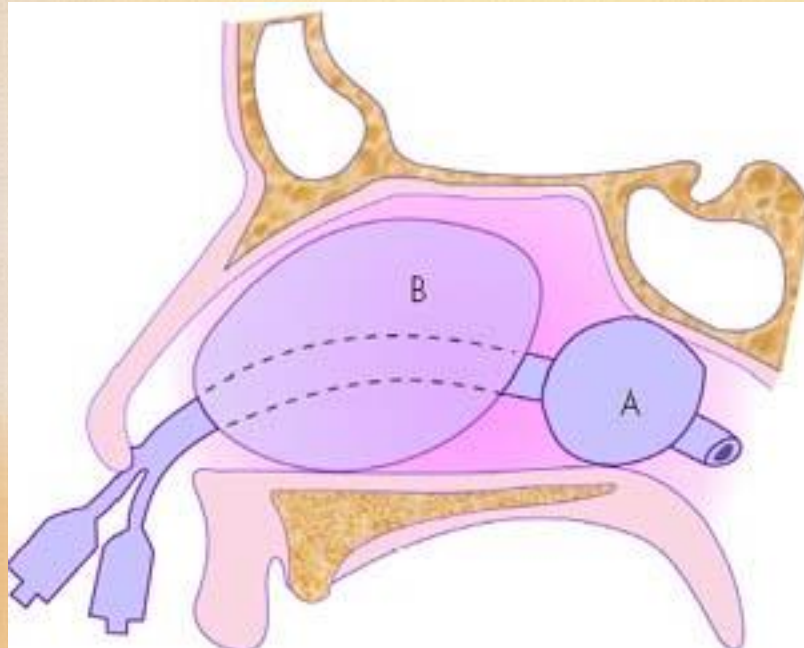
ADV: is less uncomfortable than postnasal packing.
can be performed under LA.

Insert the Foley's catheter through the bleeding nostril. When the balloon of the catheter reaches the nasopharynx, the balloon is inflated with saline and pressure applied to the nasopharyngeal walls. It is then pulled forward so that the choana is blocked and the anterior nasal pack is kept in the usual manner. The bulb is secured safely on the face with adhesive tapes.

These days nasal balloons are also available. A nasal balloon has two bulbs, one for the postnasal space and the other for the nasal cavity.



EPISTAXIS BALLON



ENDOSCOPIC CAUTERY

7.ENDOSCOPIC CAUTERY

Posterior bleeding point can sometimes be better located with an endoscope. It can be coagulated with a suction cautery. LA with sedation may be required.



ELEVATION OF MUCOPERICHONDRIAL FLAP & SMR OPERATION

8. ELEVATION OF MUCOPERICHONDRIAL FLAP & SMR OPERATION.

In case of persistent or recurrent bleeds from the septum, just elevation of mucoperichondrial flap and then repositioning it back helps to cause fibrosis and constrict the blood vessels. SMR operation can be done to achieve the same result or remove any septal spur which is sometimes the cause of epistaxis.



SYSTEMIC MANAGEMENT

9.SYSTEMIC MANAGEMENT

HYPERTENSION: Hypotensive drugs are administered to control hypertension.

REPLACEMENT OF BLOOD:

SHOCK: is treated, if present.

COAGULANTS: Like calcium, vit C, vit K, ethamsylate and carbazochrome, salicylate can be used. In an emergency, fresh blood transfusion replaces the blood lost, and provides all the known and unknown factors of coagulation.

ANTIBIOTICS: to prevent infection following nasal packing.

SEDATIVES: To allay apprehension.



ARTERIAL LIGATION

10.ARTERIAL LIGATION

LIGATION OF EXTERNAL CAROTID ARTERY

1. A curved incision in the neck centered over the bifurcation of CCA at the upper border of thyroid cartilage. The artery is ligated above the origin of the superior thyroid artery. It is avoided these days in favour of embolisation or ligation of more peripheral branches.



ARTERIAL LIGATION

LIGATION OF MAXILLARY ARTERY

Approach is via the Caldwell-Luc operation. Posterior wall of maxillary sinus is removed and the maxillary artery or its branches are blocked by applying clips.

Endoscopic ligation of the maxillary artery can be done through the nose.

LIGATION OF ETHMOIDAL ARTERY

In anterosuperior bleeding above the middle turbinate, anterior and posterior ethmoidal arteries which supply this area, can be ligated. The vessels are exposed in the medial wall of the orbit by an external ethmoid incision.

