

# Epistaxis

# EPISTAXIS

- Is a nasal bleeding
- Is a common condition.
- It may be very sever and life threatening but in most cases its trivial and easily controlled.

- Bleeding usually arises from the nasal septum which is supplied by the following vessels:
  - 1.(branches of internal carotid artery)
    - ▶ Anterior ethmoidal artery
    - ▶ Posterior ethmoidal artery
  - 2.(branches of posterior carotid artery)
    - ▶ Greater palatine artery
    - ▶ Sphenopalatine artery
    - ▶ Superior labial artery
- These vessels form a rich plexus on the anterior part of the septum - **little's area** called "**Kiesselbach's plexus**"

# Blood supply to the nasal septum

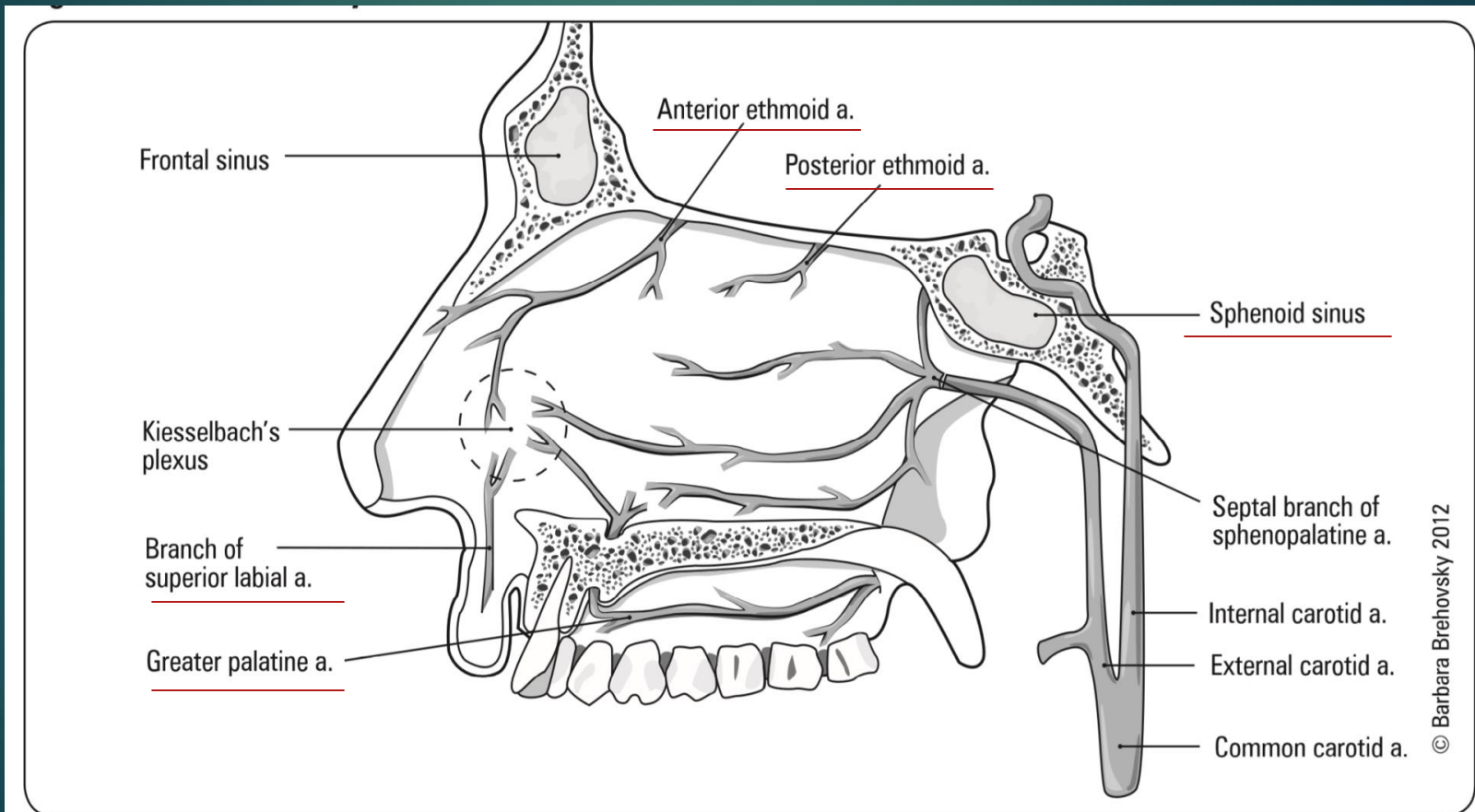


Figure 4. Nasal septum and its arterial supply (see *Epistaxis* section for detailed blood supply)

- ▶ 90% of epistaxis occur in Kiesselbach's plexus; which may be due to its relatively exposed position in the anterior part of the septum rather than the fact that this is where the vessels anastomose.
- ▶ Bleeding in the lateral nasal wall is less common but its more difficult to control.

## Local

- Idiopathic (85%).
- Traumatic (fractures, foreign body, nose picking).
- Inflammatory (rhinitis, sinusitis, allergy).
- Neoplastic (tumours of the nose, sinuses and nasopharynx).
- Environmental (high altitude, air conditioning).
- Endocrine (menstruation, pregnancy).
- Iatrogenic (surgery, steroid nasal sprays).
- Hereditary telangiectasia

## systemic

- Coagulation or vessel defects
- Haemophilia
- leukaemia.
- Thrombocytopaenia
- Anticoagulants (warfarin, aspirin).
- Cardiovascular conditions
- Hypertension. Raised venous pressure
- (whooping cough, pneumonia, mitral stenosis).
- Fevers (rare)
- Typhoid fever
- Influenza

# Hereditary haemorrhagic telangiectasia

[Also known as Osler–Weber–Rendu disease and Osler–Weber–Rendu syndrome]

- ❑ is an **autosomal dominant** genetic disorder that leads to **abnormal blood vessel formation** in the skin, mucous membranes, and often in organs such as the lungs, liver, and brain.
- ❑ Patients with this are easily recognized **by red spots** on the **lips** and the **mucous membrane** of the mouth, especially the tongue, as well as telangiectases on the face and nose.
- ❑ In addition to repeated local treatment, other therapies include oestrogens, radiotherapy, sclerosants, lining mucosa with placenta or split skin grafts and laser therapy.





# Clinical assessment

- Make sure that **the patient is not in shock** especially when bleeding is active ( vital signs), immediate resuscitation is not usually necessary.
- Its important to take full history and on examination try to localize the area from which bleeding is rising and any specific point.
- If bleeding was significant **start intravenous infusion** and laboratory investigations which include ( CBC, clotting studies, blood group and cross match).

# Management of epistaxis

10

- ❖ The aim in management is to stop the bleeding and treat the underlying cause.
- ❖ The bleeding is usually stopped by one of the following methods:
  1. Manual digital pressure
  2. Chemical cautery
  3. Electrical cautery or diathermy
  4. Anterior or posterior nasal packing
  5. Angiography and vessels embolization
  6. Surgical management

## Manual digital pressure:

- Direct digital pressure on the **lower nose** compresses the vessel on the septum and will arrest the bleeding.
- **Pressure at the root of the nose over the nasal bones is useless** (can be supplemented with ice-cold packs and sucking ice cubes).
- The patient should be **leaning Forward** to allow the blood to Trickle and should be **breathing From the mouth.**



## Chemical cautery:

This can be done with silver nitrate crystals fused to a wire, or with a proprietary silver nitrate stick.



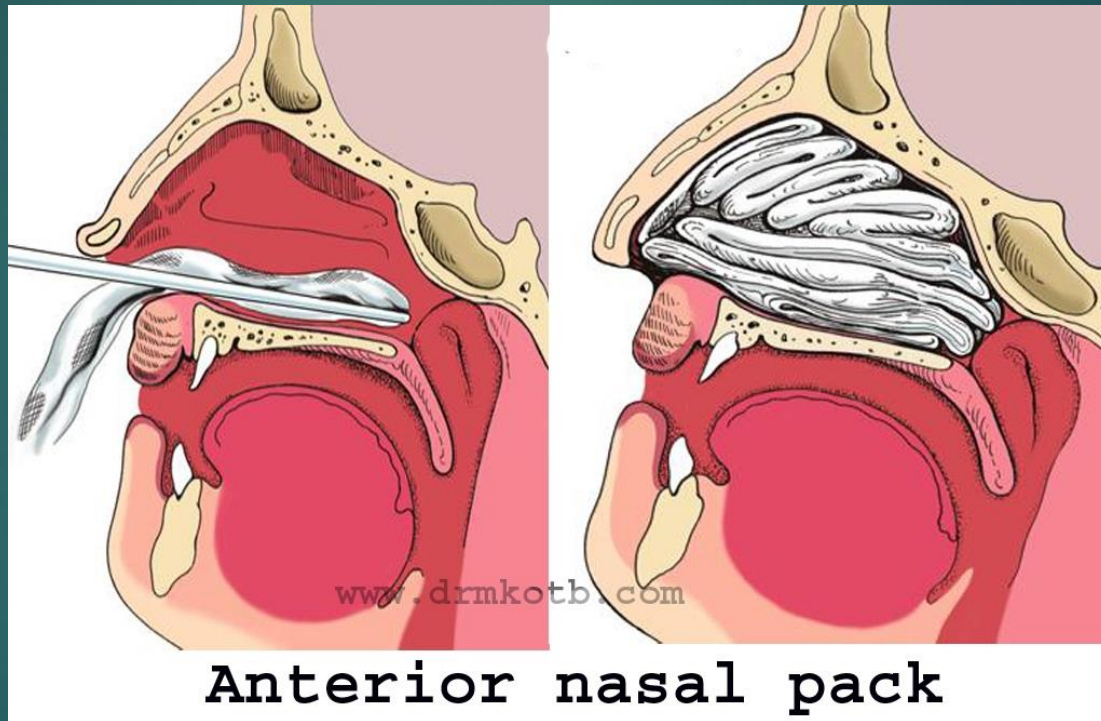
**Electric cautery or diathermy** : can be performed—under local anesthetic in cooperative adults and under general anesthetic in children. It is **more effective than chemicals when there is active bleeding.**

## Nasal packing:

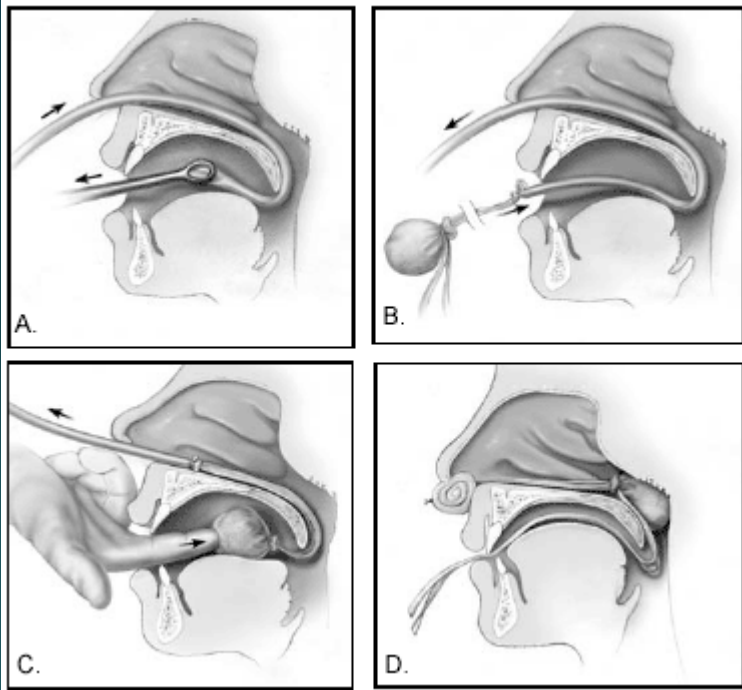
if simple measures fail to control the bleeding, the nose will need to be packed with a 1- inch ribbon gauze.

The pack can be impregmented with BIPP ( bismuth and idoform paste ) the pack is introduced along the floor of the nose and build up in loops towards the roof applying even pressure to the nasal mucosa.

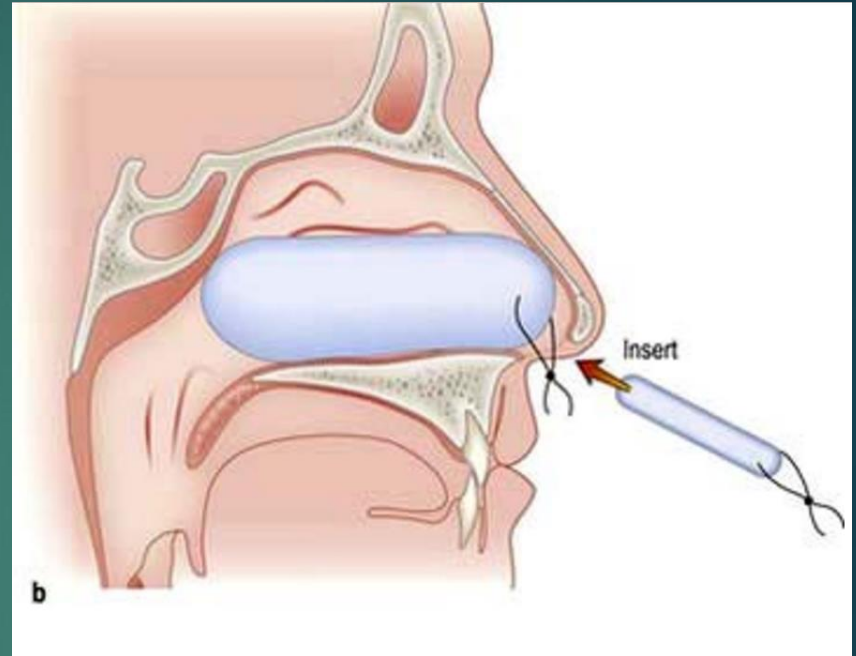
- ▶ If nasal packing is required, put the patient on systemic antibiotics to prevent otitis media from Eustachian tube blockage and sinusitis.



- ▶ Alternatively, an **inflatable pack** such as Brighton balloon can be introduced, its easier to use but not as effective.
- ▶ A further and easier option is to use self **expanding packs** such as Merocel which enlarges in the presence of moisture
- ▶ **Posterior nasal packing** is necessary if the bleeding is from the far back we can use (gauze, Foley's catheter or Brightons balloon )



Posterior nasal packing



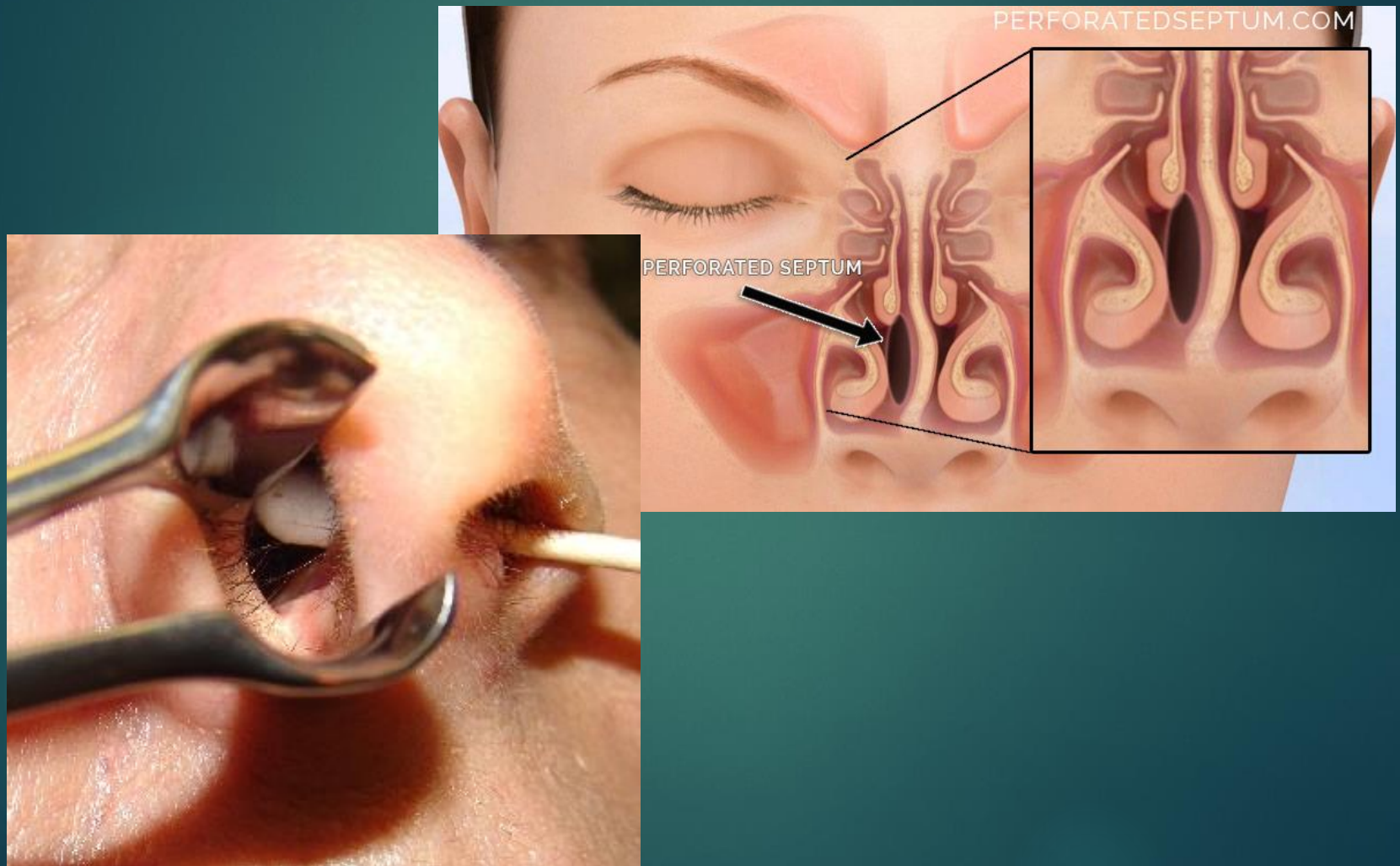
Merocel ( self-expanding pack)



## Surgical treatment:

- a) **Submucous resection (SMR)** if the bleeding is from behind a septal spur or if deviation prevents packing.
- b) **Ligation of the ethmoidal arteries** *via the medial orbit*.
- c) **Ligation of the external carotid artery** (an easy procedure) or of the **sphenopalatine artery** by nasal endoscopic surgery (a more difficult procedure).
- d) **Angiography and vessel embolization** may be necessary in rare cases of persistent bleeding.

# Septal perforation



# Septal perforation

19

## Causes:

### 1. Trauma.

- ▶ Iatrogenic (SMR, septoplasty, nasal cautery).
- ▶ Self-inflicted (nose picking).
- ▶ Injury (assault, road accident, sport injury).

### 2. Infection

- ▶ (Syphilis, tuberculosis).

### 3. Neoplasm

- ▶ Squamous cell carcinoma, adenocarcinoma, basal cell carcinoma, T-cell lymphoma.

### 4. Inflammatory

- ▶ Wegener's granulomatosis, polyarteritis nodosa, systemic lupus, chronic relapsing polychondritis.

### 5. Inhalation of irritants.

- ▶ Occupational (hexavalent, chrome, arsenic, alkaline dusts).

# Signs and Symptoms:

20

- ▶ A perforation is readily **seen** and often has **unhealthy edges** covered with **large crusts**.
- ▶ The majority of perforations are **asymptomatic**.
- ▶ The main complaints are **recurrent epistaxis**, **dryness** in the nose, **crusting** and **nasal obstruction**.
- ▶ The severity of the symptoms depends on the **position** and **the size of the perforation**.
- ▶ The **larger** the perforation and the **more anterior** its position, the worse the symptoms.
- ▶ A very small perforation may cause **whistling** on nasal breathing.

## INVESTIGATION:

- ▶ In any case where the cause is not clear, the following should be carried out:
  1. full blood count and ESR to exclude Wegener's granuloma
  2. urinalysis, especially for haematuria
  3. chest X-ray
  4. serology for syphilis
  5. if doubt remains, a biopsy from the edge of the perforation is taken.

# Management:

- ▶ Cure the **causative** disease process before specific treatment of the perforation.
- ▶ Many perforations are asymptomatic and **informed reassurance** is all that is required.
- ▶ Medical treatment with 25% **glucose in glycerol drops** will loosen and help clear crusts.
- ▶ **Barrier creams** can help prevent drying and crusting.
- ▶ **Silver nitrate** cautery can be applied to bleeding granulations.
- ▶ Nasal douching **with saline or bicarbonate solution** reduces crusting around the edge of the defect, and antiseptic cream will control infection.
- ▶ Surgical closure of the perforation is difficult to achieve.

- A variety of operations including the use of split-skin grafts, buccal mucosa or sublabial myomucosal flaps, septal mucoperichondrial flaps, composite grafts from the pinna and moving septal cartilage to fill the hole have all been described. If the perforation continues to trouble the patient it is worth trying to plug the hole with a silastic septal button.
- Paradoxically, perforations that cause a whistle can be treated by enlarging them

Thank you