COMPREHENSIVE MANAGEMENT OF EPISTAXIS

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Epistaxis - Introduction

- Epistaxis(nose bleed) one of the commonest ENT emergency
- Up to 60% of the general population will experience at least 1 episode of epistaxis in their life time, and 6% will seek medical attention
- It affects all age group

- Most of the time, bleeding is self-limited, but can often be serious and life-threatening
- In Nigeria(Adeyi et al) found prevalence of epistaxis at 5.4%
- In Tanzania(ZS Abraham et al) at MNH/ENT found a prevalence f 23.4% M>F
- Effective treatment,, depends on the etiology, site of bleed, severity of bleed, and the presence or absence of comorbidities[5]with the use of conservative and surgical management .

- Centuries ago, Hippocrates reported that pinching the nose may help to stop bleeding
- Writing magical words on the forehead with the patient's own blood, wearing amulets , have also been tried with more or less success obviously
- Carl Michel (1871), James Little (1879), and Wilhelm Kiesselbach were the first to identify the nasal septum's anterior plexus
- Pilz was the first to treat epistaxis with ligature of the common carotid artery (1869

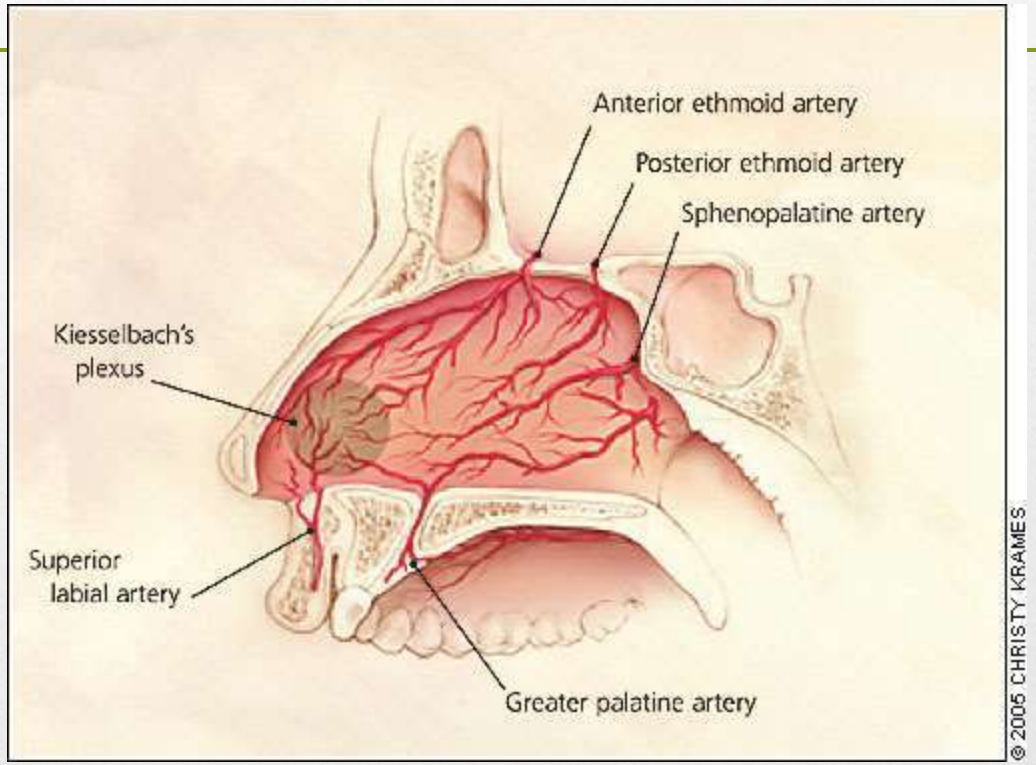
CAUSES of EPISTAXIS
Local

- Nasal trauma (nose picking, foreign bodies, fractures ,iatrogenis)
- Allergic, chronic or infectious rhinitis
- Chemical irritants
- Medications (topical)
- Drying of the nasal mucosa from low humidity
- Deviation of nasal septum or septal perforation
- Coagulopathies(coumadin,aspirin, hepatic insufisciency,Ebola,. Leukemia,ITP.
- Vascular(HTN,atherosclerosi
- Granulomatous dzes(TB,syphilis,Wegener'sgranilomatosis,sarcoidosis
- Neoplasms of the nose or sinuses (JNA,inverted papilloma,SCC,ENB
- Idiopathics

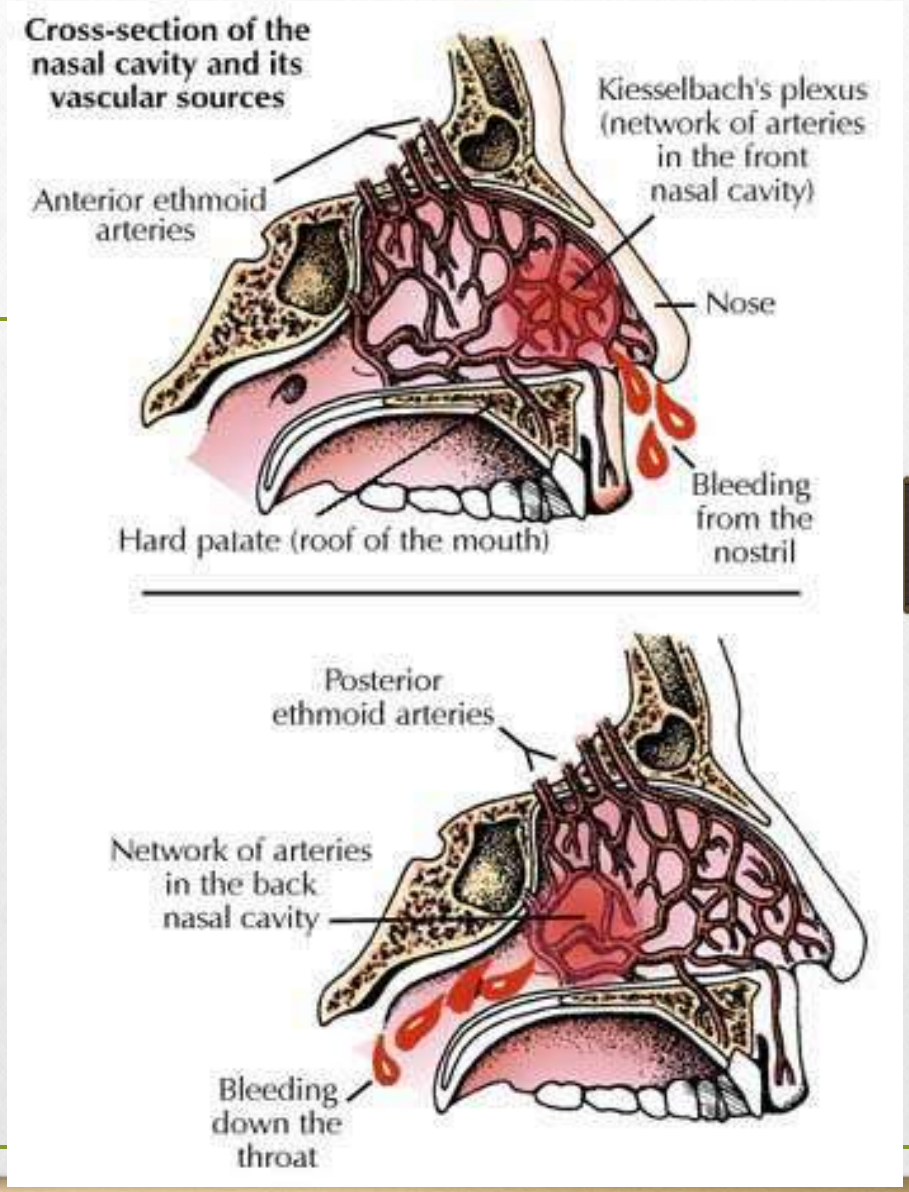
Nasal Blood Supply Anatomy

- Internal and external carotid arteries
- Many arterial and venous anastomoses
  - Kiesselbach's plexus (Little's area) in anterior septum
  - Woodruff's plexus in posterior septum

Nasal Septal Blood Supply



Vascular anatomy of the medial and lateral nasal walls



Types of Nosebleeds

- ***ANTERIOR***
  - Most common in younger population
  - Usually due to nasal mucosal dryness
  - May be alarming because can see the blood readily, but generally less severe
  - Usually controlled with conservative measures

Types of Nosebleeds

- ***POSTERIOR***
  - Usually occurs in older population
  - HTN and ASVD are common contributing factors
  - May also have deviation of nasal septum
  - Significant bleeding in posterior pharynx
  - More challenging to control

MANAGEMENT AND WORK UP

HISTORY

- severity, frequency, duration,and laterality of the epistaxis
- Previous bleeding episodes
- Head and neck hx emphazing on nasal symptoms
- Nasal trauma
- Family history of bleeding
- Hypertension - current medications and how tightly controlled
- Hepatic diseases
- Use of anticoagulants
- Other medical conditions - DM, CAD, etc.

EQUIPEMENTS

General Epistaxis Supplies

Equipment

- Protective equipment - gloves, safety goggles
- Headlight if available
- Nasal Speculum
- Suction with Frazier tip
- Bayonet forceps
- Tongue depressor
- Vasoconstricting agent (such as oxymetazoline)
- Topical anesthetic
- Endoscope

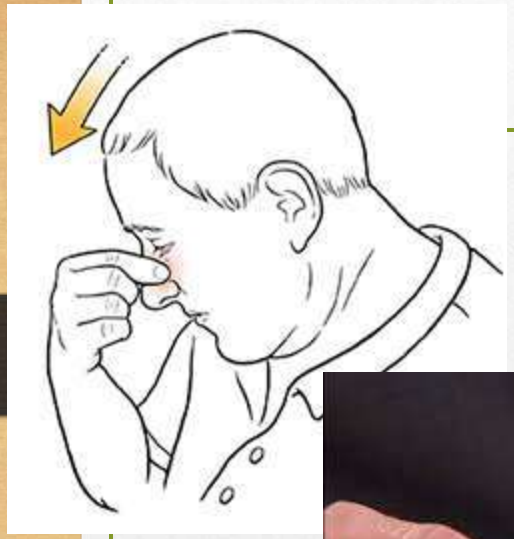
Physical Exam

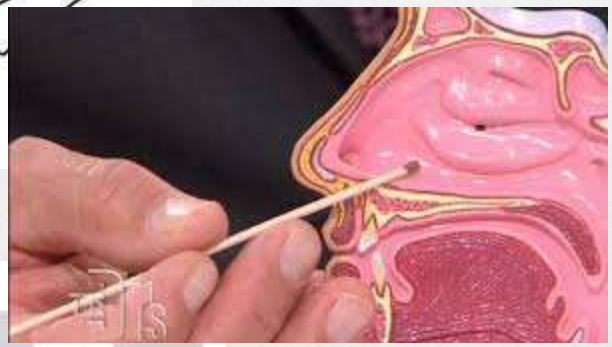
- Airways to be checked and secured
- Measure blood pressure and vital signs
- Apply direct pressure to external nose to decrease bleeding
- Use vasoconstricting spray mixed with tetracaine in a 1:1 ratio for topical anesthesia
- ***IDENTIFY THE BLEEDING SOURCE***

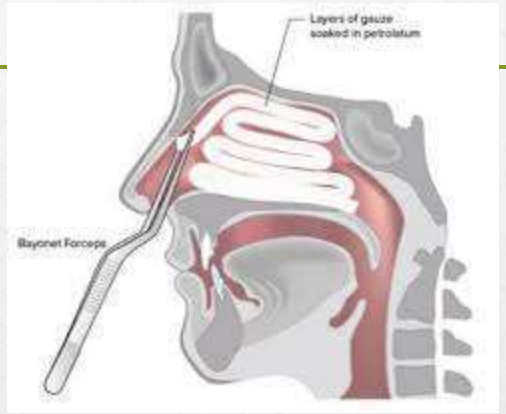
Treatment of Anterior Epistaxis

- Localized digital pressure for minimum of 5-10 minutes, perhaps up to 20 minutes
- Silver nitrate cautery - avoid cautery of bilateral nasal septum as this may lead to necrosis and perforation of the septum
- Collagen Absorbable Hemostat or other topical coagulant
- Anterior nasal packing for refractory epistaxis - may use expandable sponge packing or gauze packing

Anterior epistaxis



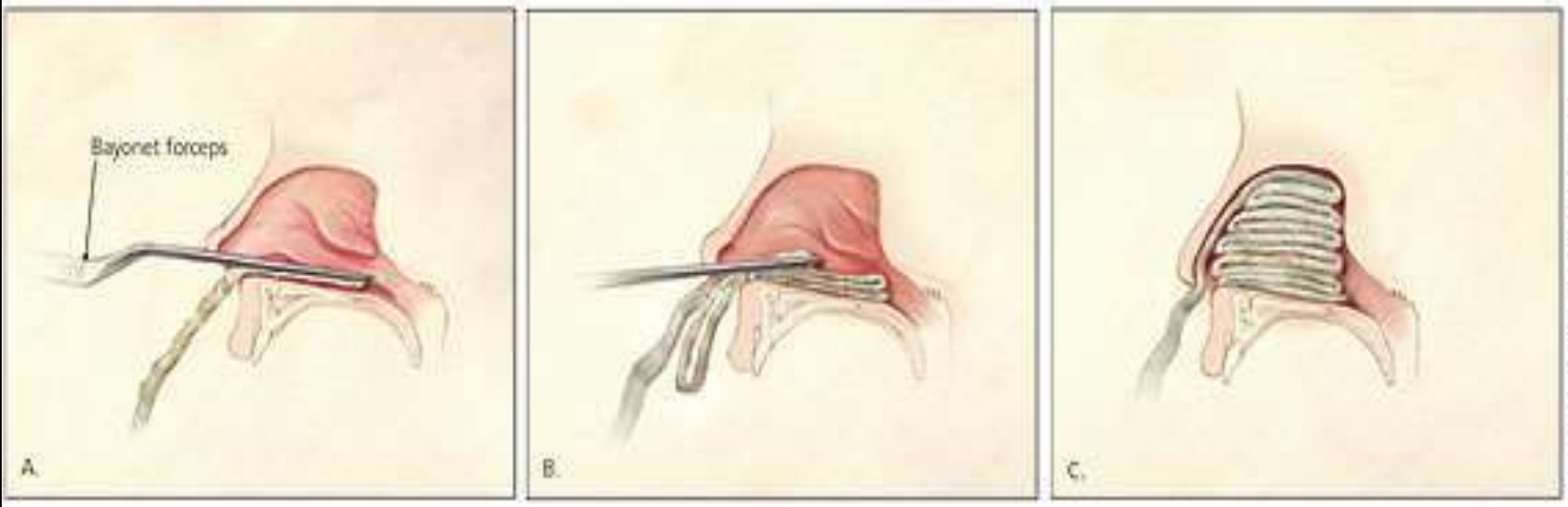




Therapeutic Equipment to be Available

- Variety of nasal packing materials
- Silver nitrate cautery sticks
- 10cc syringe with 18G and 27G 1.5inch needles
- Local anesthetic for prn injection
- Gelfoam, Collagen absorbable hemostat, Surgicel or other hemostatic materials.

Traditional Anterior Pack

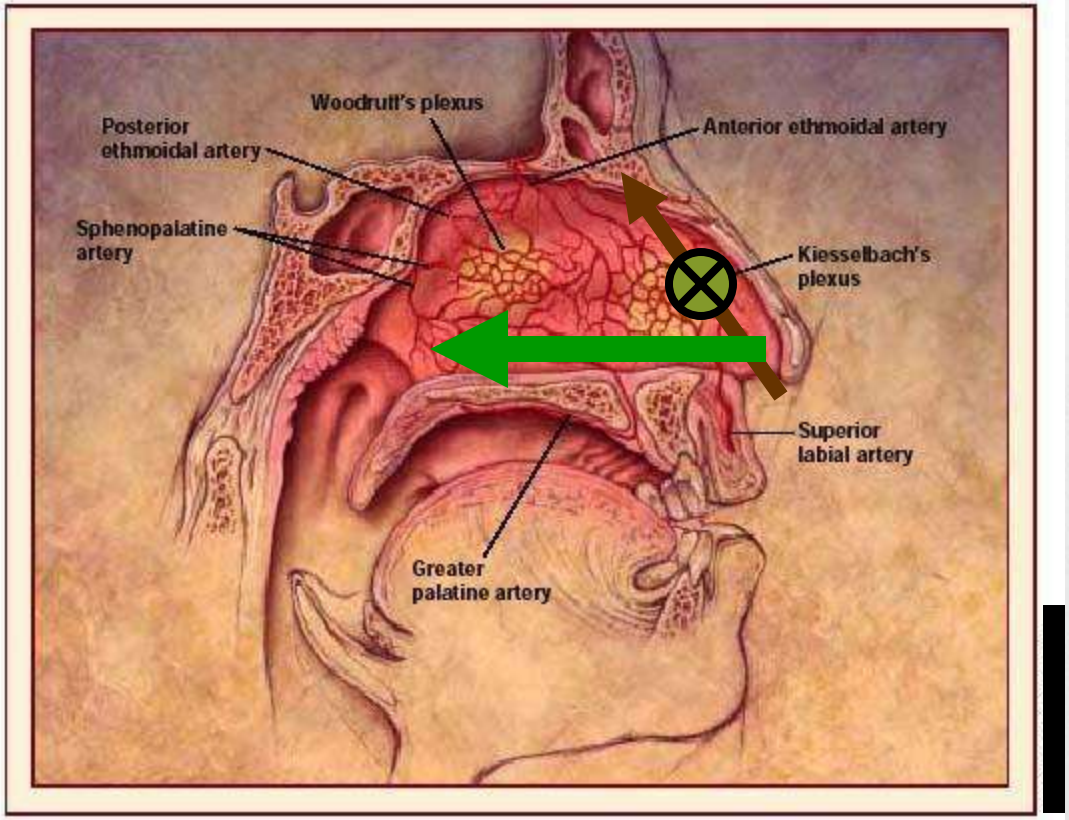


Usually, 1/2 inch Iodiform or Nu Gauze is used.
Coat the gauze with a topical antibiotic ointment prior to placement.

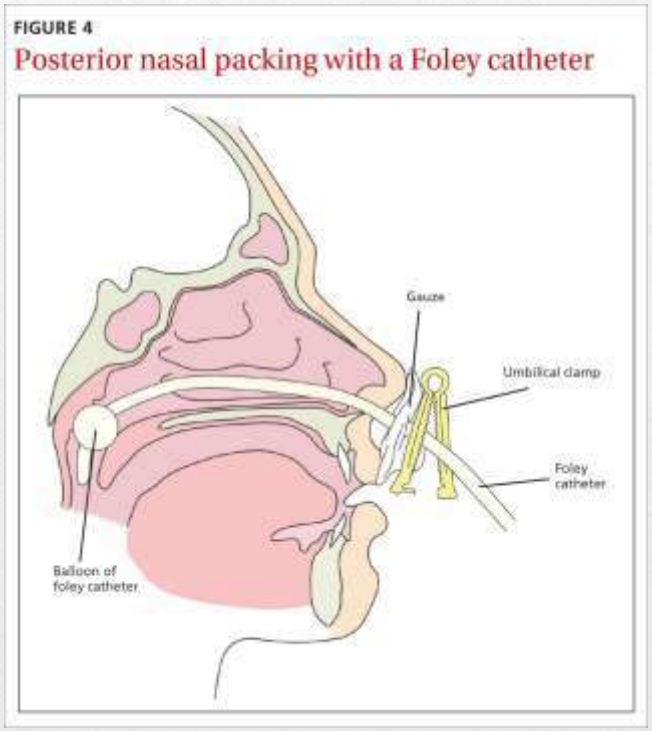
Other Anterior Nasal Packs

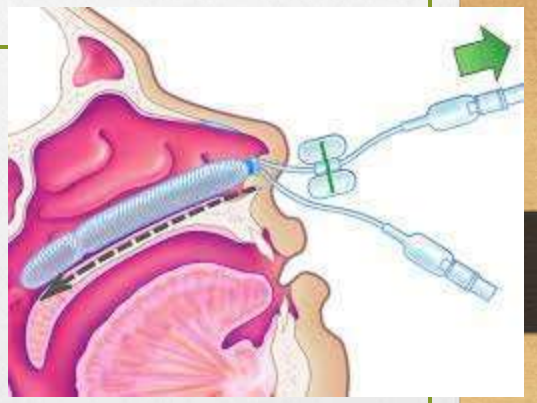
- Formed expandable sponges are very effective
- Available in many shapes, sizes and some are impregnated with antibacterial properties

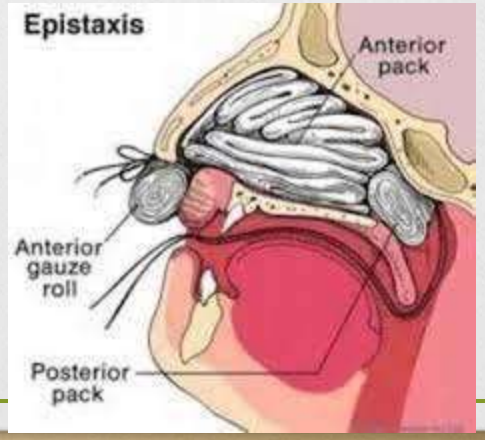
Correct direction for placement of nasal packing



Posterior Packing



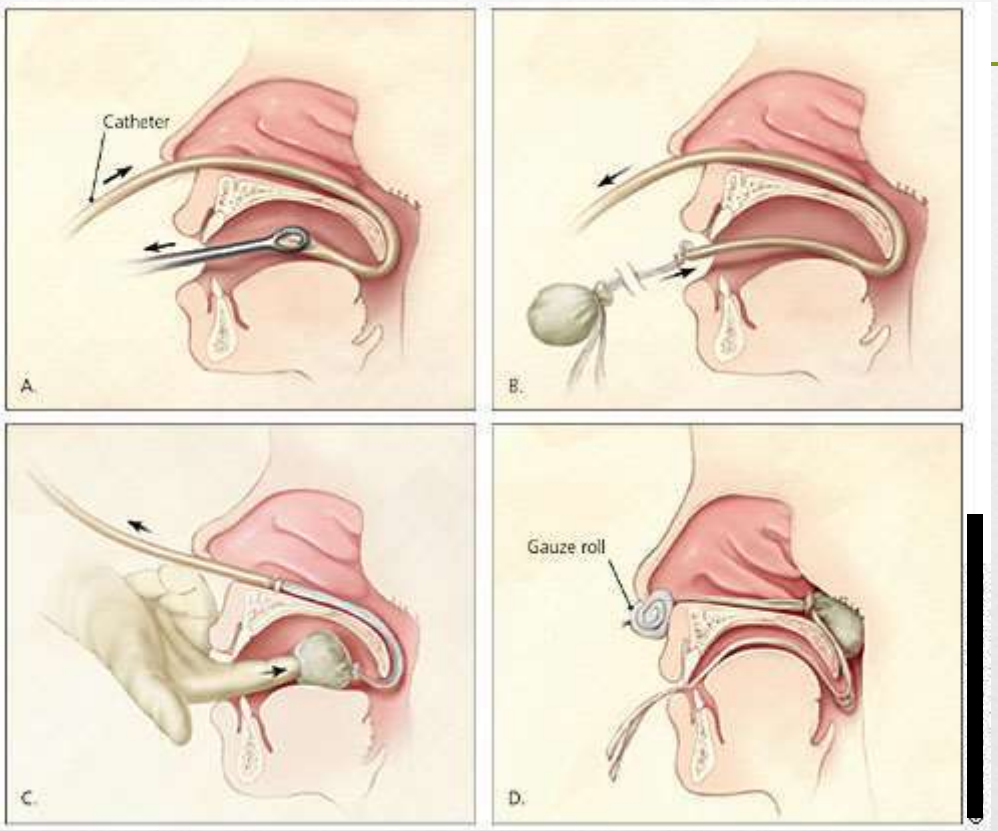




Treatment of Posterior Epistaxis

- IV pain medication and antiemetics may be helpful
- Use topical anesthetic and vasoconstrictive spray for improved visualization and patient comfort
- Balloon-type epistaxis devices often easiest
- Foley catheter or other traditional posterior packs may be necessary

Traditional Posterior Pack



Posterior Balloon Packing

- Always test before placing in patient
- Fill "balloons" with water, not air
- Orient in direction shown
- Fill posterior balloon first, then anterior
- Document volumes used to fill balloons

Complications of Posterior Packs

- Must be careful after placement of a posterior pack to avoid necrosis of the nasal ala
- Often this can be avoided by repositioning the ports of the balloon pack and close monitoring of the site

Duration of Packing Placement

- Actual duration will vary according to the patient's particular needs.
- Typically, anterior pack at least 24-48 hours.
- Posterior pack may need to remain for 48-72 hours.
  - If a balloon pack is used, advised tapered deflation of balloons
  - - most successful when volume is documented.

Precautionary measures for a patient with nasal pack

- Best to place patient on a p.o. antibiotic to decrease risk of sinusitis and Toxic Shock Syndrome
- Advise pt to avoid straining, bending forward or removing packing early
- If other nostril is unpacked, advise topical saline spray and saline gel to moisturize nasal mucosa

Other Treatments for Refractory Epistaxis

- Greater palatine foramen block
- Septoplasty
- Endoscopic cauterization
- Selective embolization by interventional radiologist
- Internal maxillary artery ligation
- Transantral sphenopalatine artery ligation
- Intraoral ligation of the maxillary artery
- Anterior and posterior ethmoid artery ligation
- External carotid artery ligation

Greater Palatine Foramen Block

- Mechanism of action is volume compression of vascular structures
- Lidocaine 1% or 2% with epinephrine 1:200,000 used or Lidocaine with sterile water.
- Do not insert needle more than 25mm

- **Prognosis** is good but variable by controlling underlying medical condition
- Lab studies: FBC,PT,PTT
- Imaging: CT scan,MRI

Preventive Measures

- Keep allergic rhinitis under control. Use saline nasal spray frequently to cleanse and moisturize the nose.
- ~~Avoid forceful nose blowing~~
- Avoid digital manipulation of the nose with fingers or other objects
- Use saline-based gel intranasally for mucosal dryness
- Consider using a humidifier in the bedroom
- Keep vasoconstricting spray at home to use only prn epistaxis

Medical legal pitfall

- Failure to recognize the severity of the bleeding
- Failure to diagnose serious etiologies (e.g., neoplasm, aneurysm,systemic coagulopathies).
- Failure to prescribe antibiotic therapy

TAKE HOME MESSAGE

- Epistaxis is one of the emergent cases in our hospital which needs immediate attention
- The primary goal is to control the bleeding.
- Make proper initial assessment and involve the concerned speciality.
- Reassurance of the patient and adequate management is paramount

References

- Cummings otolaryngology 5th edition
- Dingrah 5th edition
- *B. Bertrand*, Ph. Eloy*, Ph. Rombaux*, C. Lamarque**, J. B. Watelet***, S. Collet**. **Guidelines to the management of epistaxis***B-ENT*, 2005, **1**, Suppl. 1, 27-43
- **ZS Abraham1, SChugulu2, ELiyombo3, ER Massawe4, D Ntunaguzi4***Medical Journal of Zambia, Vol. 44, No. 3: 184-192 (2017)*

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