Comment prendre en charge une épistaxis sévère en médecine ambulatoire?

Prof. dr. Thibaut Van Zele
Prof. dr. Jean-Baptiste Watelet
dienst neus-, keel- en oorheelkunde
Universitair Ziekenhuis Gent
Epistaxis: a big problem?

- 60% of population experiences 1 episode of epistaxis
- 12% experiences several times a year epistaxis
- but only 6% seeks medical help
- 80% of epistaxis can be treated at the office
A stepwise approach to epistaxis management is advocated!

When control is not achieved a timely progression through the management steps is essential:

1. initial assessment
2. localize the bleeding site
3. direct therapy
4. tamponnade
5. vascular intervention

Stepwise approach: a man/woman with a plan
First instruction: (at home)

- during 15 minutes
- evt cold pack in neck

Sit and lean forward slightly

Breath through mouth

Pinch nostrils
Strategy in patient with epistaxis

- Is impressive for both patient and doctor
- Most epistaxis is not life threatening
- Don’t panic
- Prepare yourself and the equipment
The Dundee protocol

The UZ Gent protocol
Step 1: initial assessment

- prepare yourself: speculum, suction, good headlight, instruments/balloon/ etc
- let the patient sit on a bed
- ask the patient to blow the nose gently
- medical history (cfr risk factors)
- blood (Hct, Hb, PT/APTT and INR)
- IV line
Step 2 localize the bleeding site!

- place cottonoids with pantocaïn and 10 drops 1/1000 epinephrine for 10-15 minutes
- mild epistaxis: spray with xylometazoline
- control 65% of epistaxis cases in GP
Step 2 localize the bleeding site!

- Look for origin/source of bleeding
  - anterior rhinoscopy
  - nasal endoscopy (can identify in up to 80% of patients the bleeding site)
  - throat examination!!

- Kiesselbach
- Area of attachment middle turbinate
- Middle meatus / skull base
control bleeding: 2 options

**Step 3 - Direct Therapy**
- Apply electrocautery or diathermy to the bleeding site.
- Where not available, use Silver Nitrate around, then over the bleeding site.
- In continued minor bleeding, apply local pack or procoagulant dressing.

**Step 4 - Nasal Packs or Dressings**
- Insert an anterior nasal pack or dressing, posterior if this fails to achieve control.
- In high risk cases*, commence an anti-staphylococcal antibiotic.
- In balloon packs, recheck inflation after 30 minutes or in cases of further bleeding.

**Abated Epistaxis**
- Observe for 24 hours.
- Discharge.

* - High Risk Cases
- Post nasal packs
- Warfarin / Coagulopathy
- High Cardiac Risk
- Haemoglobin <9 g/dl
Step 3: Direct therapy

- **Electrocautery / diathermy**

- **Silver nitrate**
  - not effective in case of profuse bleeding
  - start around bleeding site and then work towards bleeding site
  - use only one side of nasal cavity
  - treat other side if mucosa is healed completely

- if necessary cover with procoagulant dressing (surgicell)
Step 4: Nasal packing or dressings

- Which one to choose?
Nasal packings

- After local anesthesia
- Insert parallel to floor of nose and parallel to nasal septum
- Unilateral unless you observe a shift of nasal septum
- Humidify with saline
- Leave in place for 24-48 hours
Nasal packings: balloon tamponnade with Foley catheter
Nasal packing: Bellocq tamponnade
Nasal packing: commercial balloon packs

Epistat

Rapid Rhino
Nasal packing risks

- CO₂ retention with hypoxia
  - always hospitalize patient
- Balloon packing: painful
- Necrosis of ala, columella, septum
- Otitis media with effusion
- Septal luxation (contralateral tamponade remains controversial)
- Scarring
- ....
Bleeding stopped with tamponnade

- Leave tamponnade in place preferably 48h

- Toxic shock? 16.5 in 100,000 tamponnated patients with have a TSS
  - no data that antibiotics decrease risk
  - >48u amoxi-clav or from first hour in high risk cases

- Remove packing under controlled circumstances
  - deflate balloon, but leave in nasal cavity for several hours, than remove completely
  - foresee vascular intervention
  - vagal reactions

© 2010 Universitair Ziekenhuis Gent
Step 5 Vascular intervention

Step 5 - Vascular Intervention
- Arrange EUA +/- SPA and / or AEA ligation.
- Perform Embolisation where this fails or is impossible.

Treated Epistaxis
- Observe for 4 to 24 hours.
- Discharge.

Packed Epistaxis
Pack Removal after 24 hours, 48 in High Risk® cases.

If Patient arrived packed, return to Step 1. Otherwise repack and proceed to Step 5.

Refractory Epistaxis, consider...
- Further ligations (Bilateral SPA, AEA, External Carotid).
- Angiography +/- Embolisation.
- Coagulopathy and Hypertension Investigation / Correction.
- Fibrin Sealants, Tranexamic Acid, Decongestants.
- Hot Water Irrigation.
- Prolonged Tamponade.
Step 5 Vascular intervention

- 80-90% Sphenopalatine artery
- treated by endoscopic ligation cauterization
- procedure under general anesthesia
- not a single artery!
- av 2-3 branches

Simmen 2006 Am J Rhinol
Voegels R Laryngoscope 2007
Endoscopic sphenopalatine cauterisation
Step 5 Vascular intervention

- Is more cost effective than balloon tamponnade and long hospitalization
- High success rate up to 80%

Table 1 Wexham Criteria for SPA ligation in epistaxis

1. Persistent posterior epistaxis uncontrolled by packing
2. Haemoglobin drop >4g/dL and/or blood transfusion required
3. Three episodes of recurrent epistaxis requiring re-packing during a single admission
4. Repeated hospital admission for recurrent ipsilateral epistaxis (>3 occasions in the last 3 months)

a Anterior and posterior packing by an ENT SpR or equivalent using Merocel packs/BIPP ribbon gauze/posterior nasal balloon catheter [18]

Step 5: vascular intervention

- **Anterior ethmoidal artery**
  - dehiscence up to 40%
  - average 3.5mm below skull base
- **Posterior ethmoidal artery**
  - more bony protection at skull base
- **bipolar preferable at skull base**
  - with monopolar risk of CSF leak
- **external approach** with a Lynch-Howarth incision: clip or cautery of the artery as it traverses the space between the periorbita and lamina papyracea.
Step 5: vascular intervention

- Embolization:
  - UZ Gent only if arterial ligation fails
  - Only branches of External carotid artery

- Complications 6-47%:
  - CVA
  - Arterial dissection
  - Necrosis facial skin huid
  - Hypoesthesia face
Remind these special cases of epistaxis!!

epistaxis after fracture of facial bones
- reduction of fractures
- be careful with tamponnade: fracture of skull base is possible, masking of a CSF leak

severe epistaxis with fracture skull base/sphenoid sinus
- bleeding from sinus cavernosus/internal carotid, fistel
- angiography
Remind these special cases of epistaxis!!

- **epistaxis after nose fracture**
  - branch ethmoidalis anterior
  - anterior tamponade is sufficient

- **Rendu-Osler-Weber** (hereditair hemorrhagische teleangieectasieën)

- **juvenile angiofibroma**
  - male adolescents
  - nasal obstruction and severe bleeding on same side
  - sometimes tumor visible on oropharynx
Conclusion

High risk patient that presents with severe epistaxis
male of 64 years
multiple comorbidities
anti-coagulant therapy
recent change (<2 weeks) in anti-coagulant therapy
between 2AM and 8AM

Treated with packing and in 46,5% with vascular intervention

Success rate 82,9%

5 years survival 75,9%

IMPORTANCE OF MULTIDISCIPLINARY COLLABORATION