Case 4:

EDINBURGH UNIVERSITY
EAR NOSE & THROAT
SOCIETY

The Edinburgh ENT Soc cases have not been proofread by any professionals or members of the medical school. They have been made based on the guidelines available at the time.

For questions and feedback please email us at edinburghentsoc@gmail.com or use our social media pages (@EUENTSOC on instagram, @EdinburghENTSoc on Facebook).

A 63-year-old female presents to the emergency department at 5am, post waking up with blood all over her pillow, and a continuous ooze of blood from her right nostril. This is the first time it happens, and she does not report any blood flowing in the throat.

She was started on Bisoprolol and Warfarin 2 weeks prior for persistent atrial fibrillation.

On examination the patient is alert and oriented, BP 110/60, pulse 95, respiratory rate 22, Sp02 98% room air. Blood is still oozing from her right nostril in the emergency department.

Question 1: Which one of the following is NOT a risk factor for epistaxis (nosebleed)?

- Trauma
- Infection
- Warfarin
- Poor dental hygiene

Question 2: What is the most likely type of epistaxis in this case?

Answers to Q1-2:

Our patient takes **Warfarin** and is therefore at an increased risk of epistaxis.

Other risk factors include (*non-exhaustive list*):

- Substance abuse e.g. cocaine
- Nasal sprays e.g. steroids or anti-histamines
- Previous nasal surgery
- Pregnancy
- Liver and renal failure
- Hypertension

Poor dental hygiene is NOT part of the risk factors for epistaxis.

The patient has blood coming out of the right nostril and she cannot feel any blood dripping down her throat, so the most likely diagnosis is an **anterior epistaxis**. 90% of epistaxis occurs in the **anterior nasal septum**, from Littles area, which contains the Kiesselbach plexus of vessels. **Posterior epistaxis** is rarer and requires hospital admission.

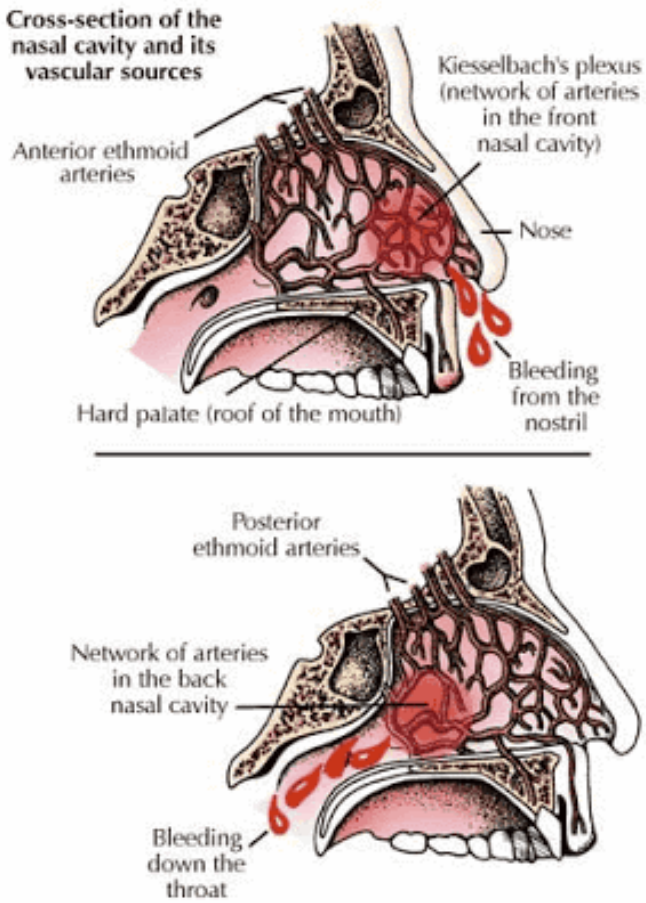

Figure 1: Anterior (top diagram) and posterior (bottom diagram) epistaxis. Reproduced from https://litfl.com/a-case-of-epistaxis/

You confirm the diagnosis of **anterior epistaxis** when examining the right nostril with suction and a Thudichum's speculum. You identify a clear bleeding point.

Question 3: What is the first-line management in this case?

Most nosebleeds respond to **compression and cooling** (cold compress over forehead and bridge of the nose).

Effective compression = occlusion of both nostrils for 10-20min! Pinch septum over Little's area bilaterally, not the bony part of the nasal bridge.

You have tried compression and cooling, but the patient is still bleeding.

Question 4: What is the next management step?

If the bleeding point is visible, try **chemical cautery** with a silver nitrate stick.

If the bleeding point is NOT visible or chemical cautery has failed, proceed to **nasal packing**. This includes nasal tampons or inflatable packs or ribbon gauze.

Topical adrenaline can be used with suction to help visualise the bleeding point.

Question 5: Why is it important to only cauterize ONE side of the nasal septum?

Our patient did not respond to chemical cautery and nasal packing was therefore performed in the ED. The patient is admitted on the ward for observation. You are the FY1 on the ward and you are asked to order bloods for the patient.

Question 6: What blood tests will you order?

Answers to Q5-6:

Using chemical cautery bilaterally involves an important risk of **nasal septum ischaemia and perforation**. Therefore bilateral nasal cautery should never be performed.

Blood tests will help you determine the cause of the nosebleed. In this case we are highly suspicious that the patient's INR is inappropriate as she was started on Warfarin recently.

Essential blood tests to order on admission:

- **FBC** to check for haemoglobin levels as our patient has potentially lost a significant amount of blood
- **A group and hold** as transfusion may be required, especially if the bleeding starts again
- **INR** because the patient is on Warfarin

Non-essential blood tests in this context:

- **Coagulation studies** are only of benefit in patients with a known coagulopathy or chronic liver disease.
- **U&Es and LFTs** only if significant past medical history e.g. renal disease or chronic alcohol abuse

References:

- SFO UK: The Official Handbook for Medical Students and Junior Doctors
- **NICE: Epistaxis management** https://cks.nice.org.uk/topics/epistaxis-nosebleeds/management/acute-epistaxis/
- https://litfl.com/a-case-of-epistaxis/