

## **Embolization for Intractable Epistaxis**

### **Introduction**

Intractable epistaxis is defined as any nosebleed that does not respond to those conservative measures such as nasal packing.

Usual causes of intractable epistaxis include uncontrolled hypertension with or without focal superficial disease of the nasal passages, bleeding necrotic tumor, or bleeding vascular malformation

Rarely, intractable epistaxis is caused by carotid artery blowout (especially in patient with history of radiotherapy for head and neck cancer)

### **The Procedure**

- The procedure will be performed under local or general anesthesia and aseptic technique.
- The interventionist will puncture a blood vessel at your groin region (mostly right side) with a needle. After the needle is correctly positioned, a slender guidewire is placed through the needle into the blood vessel. The needle is then withdrawn, allowing a fine plastic tube (the catheter) to be placed over the guide wire into the blood vessel.
- Under X-ray guidance, the catheter will be advanced into your neck region and special dye (contrast medium) will be injected through the catheter and X-rays taken.
- Within this catheter, another smaller micro-catheter will be advanced into the bleeding vessel. Embolic agents such as particles, coils, or glue will then be given via the microcatheter.
- In case of carotid artery blowout which is a life-threatening emergency; placement of stent or occlusion of the internal carotid artery itself might be performed.
- All the catheters will be removed at the end of the procedure. Pressure will be applied to the groin region to stop any bleeding. The opening in the skin is then covered with a dressing.
- The duration of this procedure is different for every patient.
- Your vital signs (e.g. blood pressure, pulse) and neurological condition will be monitored during and after the procedure. Attention should be paid on the skin puncture site to make sure there is no bleeding from it.

### **Potential Complications**

- Overall procedure related mortality is rare (less than 2 %).
- Overall incidence of major complications that have permanent clinical implication is around 5% (except in patient with carotid blowout).
- Major complications includes:
  - Stroke (permanent limb weakness, numbness, visual loss)
  - Retinal infarct (rare)
  - Nasal septum perforation (rare)
  - Cranial nerve damage, usually temporary and deficit will improve over a period of days to weeks.
  - Arteriovenous fistula or pseudoaneurysm at the puncture site
  - Contrast media associated nephrotoxicity

- The overall adverse reactions related to iodine-base non-ionic contrast medium is below 0.7%. The mortality due to reaction to non-ionic contrast medium is below 1 in 250,000.
- Breakage and knot forming of catheter or guidewire is very rare, this may require surgical removal.
- Minor complications includes:
  - Groin bruise and pain
  - Complications related to contrast medium injected – rash, urticaria.
  - Transient neurological deficit which is reversible within 24 hours (limb weakness, numbness)
  - Transient visual loss
  - Arrhythmia
  - Post-procedure pain, which is a common phenomenon and not necessarily indicating a true problem. It is usually self-limiting and resolves in several days.

### Before the Procedure

- Your referring doctor will ask you to sign a consent form for this investigation. You should volunteer information to your doctor on history of allergy to food and drugs, history of asthma, urticaria, eczema and allergy to contrast medium.
- Check any bleeding tendency and correct if possible.
- Fast for 6 hours before the examination.
- Empty the bladder before the procedure.
- Skin preparation of the puncture site.
- During the examination, you are advised to listen carefully to the instructions given by our staff.
- For diabetic patient on drug - consult clinician concerned for the adjustment of insulin dosage if necessary.

### After the Procedure

- After the catheter was removed, the puncture site has to be compressed for at least more than 10mins.
- Continue to watch for evidence of secondary bleeding and swelling at the puncture site.
- Continue to check blood pressure and pulse, or neuro-observation.
- You may need to have bed rest.
- You may need to continue to fast or take diet as tolerated depending on your condition.
- For diabetic patient on drug - consult clinician concerned for the adjustment of insulin dosage if necessary.

### Remarks

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