

Introduction

1. Embolization is an interventional procedure in which clotting or occluding agents are delivered to an organ through blood vessels. It is performed to control severe internal bleeding such as postpartum haemorrhage (severe bleeding after natural delivery or delivery by Caesarean Section).
2. The goal of the procedure is to stop the internal bleeding and save life.
3. This procedure will be performed by radiologists with special training in interventional radiology. The procedure will generally be performed in the Department of Radiology under X-ray guidance.

The Procedure

1. The procedure is performed under local anaesthesia using aseptic techniques.
2. Your vital signs (blood pressure, pulse and oxygenation status) will be monitored throughout the entire procedure.
3. The femoral artery at the groin is punctured by the radiologist and an arterial sheath inserted via a small nick in the skin. It provide an access to the arterial system. An alternative access is from the upper arm.
4. The radiologist then inserts a thin plastic tube (called a catheter) into a blood vessel through the arterial sheath. An X-ray dye (called a contrast medium) will be injected into the blood vessel through the catheter to make the blood vessels visible on X-ray. The radiologist will look for the site of bleeding.
5. Embolic material is delivered to both internal iliac arteries in the pelvis through a catheter. A smaller coaxial catheter through the original catheter may occasionally be used to spare or bypass normal structures. The type of embolic agent used depends on the circumstances. Usually a temporary agent (like gelfoam) is used. A permanent agent (like PVA particles or fibred metallic coils) may be used if needed. A check angiogram will be performed at the end of the procedure to confirm cessation of bleeding.
6. The procedure takes approximately one to three hours, depending on the complexity of the procedure.
7. At the end of the procedure, the catheter is removed. If the condition of the patient is stable, the arterial sheath may also be removed and bleeding from the puncture site is controlled by pressure or other means. If the clinical condition is unstable, the sheath may be left behind in case re-embolization is necessary.
8. After the procedure, the vital signs will be monitored to make sure there is no rebleeding.

Before the Procedure

1. A written consent is required.
2. Check history of allergies (e.g. contrast, food, asthma, urticaria, rhinitis, eczema, hay fever, medication, etc). Steroid will be given if necessary.
3. Set up venous access.

Risk and Complication

1. Short term local pain and a transient fever (common, resolve in 1-2 days).
2. Non-target embolization to other pelvis organs causing ischemic injury, such as nerve paralysis and result in numbness or paralysis. It is generally rare, as pelvis organs are supplied by multiple vessels.
3. Menses and potential for future pregnancy may be affected (uncommon).
4. Allergic reaction to intravenous contrast medium.

General Risks:

- Mild reactions: For example, itching, mild skin rash, nausea, vomiting, feeling of warmth, arm pain, sneezing, coughing, and chest tightness. A few patients may experience delayed reactions usually within 24 hours, which include pain at injection site, itching, rash, painful or swollen salivary glands. The symptoms are usually transient, requiring minimal or no treatment.
- Moderate reactions: These symptoms are more severe and last for longer duration. Patient may also experience rash or urticaria, fever and chills, an increase or decrease in blood pressure and palpitation. Specific treatment and close monitoring are required.
- Severe reactions: The symptoms include shortness of breath, irregular heartbeat, chest pain, severe kidney failure, convulsion and unconsciousness. If these symptoms occur, the patient will require urgent medical treatment.

Should a complication occur, another life-saving procedure or treatment may be required immediately.

Disclaimer

This leaflet only provides general information pertaining to this operation / procedure. While common risks and complications are described, the list is not exhaustive, and the degree of risk could also vary between patients. Please contact your doctor for detailed information and specific enquiry.

Reference

The Hong Kong Society of Interventional Radiology Limited,
Patient Information Leaflet: Embolotherapy for Bleeding Problem After Delivery (Postpartum Hemorrhage) (2010) Smart Patient Website by Hospital Authority: Contrast Study of Computer-Assisted Tomography Scan (v2/2020)