

EMBOLOTHERAPY FOR BLEEDING PROBLEMS

Information for patients

Introduction

- Embolotherapy is an interventional procedure in which clotting or occluding agents are delivered to an organ through blood vessels. It can be performed to control severe internal bleeding in circumstances such as ruptured tumours of the liver or kidney, postpartum haemorrhage (severe bleeding after natural delivery or delivery by Caesarian Section), bleeding from the gastrointestinal tract and bleeding due to trauma to internal organs or pelvis.
- The goal of the procedure is to stop the internal bleeding and save your life.
- The procedure is performed by radiologists with special training in interventional radiology. It is performed in the Department of Radiology or inside the operation theater under image guidance.

Procedure

- After the groin is anesthetized, the femoral artery at the groin is punctured and an arterial sheath inserted to provide an access to the arterial system. You should not feel any major discomfort. An alternative access is from the upper arm.
- An angiographic study with contrast medium injected through a small catheter is performed to look for the site of bleeding.
- Once identified, embolic material is delivered to the organ 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. It may be a temporary agent (like gelfoam) or a permanent agent (like particles, NBCA tissue glue or fibered metallic coils). A check angiogram will be performed at the end of the procedure to confirm cessation of bleeding.
- The procedure takes approximately one to three hours, depending on the complexity of the procedure.
- At the end of the procedure, the catheter is removed. The arterial sheath may be removed immediately and bleeding from the puncture site is controlled by pressure or other means. It is utmost important that you should co-operate and keep still so that the wound can be compressed effectively. Once the wound is sealed by natural clotting, you should rest the limb with the puncture site as recommended. Occasionally, if your clinical condition is unstable, the sheath may be left behind and it will be removed later.
- After the procedure, your vital signs (like blood pressure and pulse rate) will be monitored to make sure there is no rebleeding.

Potential Complications

Liver:

- Post-embolization syndrome: abdominal pain, abdominal distension, nausea, vomiting, tiredness, and fever (common).
- More serious complications occur in less than 7% of cases. These include liver function insufficiency or death of liver tissue (2%), hepatic abscess (2%), tissue death in bile ducts

and bile duct narrowing (rare), inflammation of the gall bladder requiring surgical removal (rare), and nontarget embolization of the gut (rare).

Spleen:

- In splenic injury requiring embolization, subsequent immune function may be diminished, but it compares favourably to outright resection of the spleen.
- Splenic abscess (rare)

Kidneys:

- Renal function impairment. Its occurrence depends on the pre-procedural renal function and the extent of embolization.
- Transient hypertension (rare, and can be controlled with medication).
- Post-embolization syndrome, with transient pain and low-grade fever (10%).
- Infection of blood clot surrounding the kidney, and may require percutaneous drainage or surgery (rare).

Gastrointestinal tract:

- Transient fever (common).
- Bowel infarction (<15%) causing perforation, peritonitis and severe systemic infection. Abdominal surgery and bowel resection may be necessary.
- Nontarget embolization to other parts of the bowel, resulting in bowel ischemia or infarct.

Embolization of pelvic arteries in pelvic trauma:

- Nontarget embolization to other pelvic organs causing ischemic injury, such as nerve paralysis and result in numbness or paralysis. It is generally rare, as pelvic organs are supplied by multiple vessels.
- Menses and potential for future pregnancy may be affected in women (uncommon)
- Impotence in men.

Procedure-related death is rare.

The overall adverse reactions related to iodine-based non-ionic contrast medium is below 0.7%.

The mortality due to reaction to non-ionic contrast medium is below 1 in 250,000.

Disclaimer

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