



Introduction

- Spinal angiogram is a special X-ray examination of spinal blood vessels. One of the most common reasons for spinal angiograms is to look for underlying cause of spinal haemorrhage or spinal cord edema related to blood vessel malformation or tumour rich in blood supply. It is sometimes used to define anatomy of blood vessels before surgery.
- 2. 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 provides 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.
- 5. The X-ray equipment will then be used to navigate the catheter into the desired position and then the contrast medium will be injected through the catheter and X-rays taken.
- 6. As the contrast medium passes around your body, you may get a warm feeling which will soon pass off. The duration of each angiogram procedure is different for every patient, depending on the complexity of the condition. As a general guide, each patient having diagnostic angiogram stays in the X-ray department for about one and a half hour altogether.
- 7. At the end of the procedure, the catheter is removed, and puncture site is compressed manually for about ten to twenty minutes to stop bleeding.
- 8. The patient's vital signs will be monitored after the procedure. Attention should be paid on the skin puncture site to make sure there is no bleeding from it.
- 9. The patient should have bed rest for several hours and avoid vigorous movement to prevent bleeding over the puncture site.

Before the Procedure

- 1. A written consent is required.
- 2. Inform medical staff before the examination if patient is or may be pregnant as the examination involves high dose of X-ray that is harmful to a foetus. Pregnancy test may be necessary in case of any doubt if the examination is to be proceed.
- 3. Inform doctor of history of allergy to contrast medium. Oral or intravenous steroid premedication may be needed before injection of contrast medium.
- 4. Keep fasting for 4 hours prior to the examination.
- 5. For diabetic patients on Metformin medication, patient should inform medical staff before examination.
- 6. Check clotting profile for any bleeding tendency, to be corrected if abnormality detected.
- 7. Set up venous access.

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Information on Spinal Angiogram

Risk and Complication

- 1. Overall incidence of major complications of spinal angiography is around 2%.
- 2. Major complications include:
 - Permanent neurological deficit (permanent limb weakness, numbness, visual loss)
 - Groin of retroperitoneal hematoma requiring transfusion or surgery.
 - Arterial occlusion requiring surgical thrombectomy or thrombolysis.
 - Arteriovenous fistula / pseudoaneurysm at puncture site
 - Breakage and knot forming of catheter or guidewire is very rare, this may require surgical removal.
 - Sepsis (rare)
- 3. Allergic reaction to intravenous contrast medium.
 - 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 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

- 1. The Hong Kong Society of Interventional Radiology Limited, Patient Information Leaflet: Catheter Angiography / Angiogram (2010)
- 2. Smart Patient Website by Hospital Authority: Spinal Angiogram (2022)
- 3. Smart Patient Website by Hospital Authority: Contrast study for computer-assisted tomography scan (v2/2020)

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