

## **Spinal Angiogram**

### **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 hemorrhage or spinal cord edema related to blood vessel malformation or tumor rich in blood supply. It is sometimes used to define anatomy of blood vessels before surgery.

This procedure will be performed by radiologist/interventionist. The procedure will generally be performed under X-ray guidance.

### **The Procedure**

- The procedure will be performed under local or general anesthesia and aseptic technique.
- The radiologist/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 The needle is then withdrawn, allowing a fine plastic tube (the catheter) to be placed over the guide wire into the blood vessel.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 navigated in the blood vessels, and special dye (contrast medium) will be injected and X-rays will be taken.
- During the procedure, you should not move your body and sometimes hold your breath.
- As the special dye (contrast medium) is injected, you may feel nausea, warmth sensation, dizziness or burning sensation over your body, which will soon pass off.
- The duration of each spinal angiogram procedure is different for every patient, depending on the complexity of the condition.
- At the end of the procedure, the catheter is removed and puncture site is compressed to stop bleeding.
- Your vital signs (e.g. blood pressure, pulse) 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.
- You should have bed rest for several hours and avoid vigorous movement to prevent bleeding over the puncture site.

### **Potential Complications**

- Overall incidence of major complications of spinal angiography is around 2%.
- Major complications includes:
  - Permanent neurological deficit (permanent limb weakness, numbness, visual loss)
  - Groin or retroperitoneal hematoma requiring transfusion or surgery.
  - Arterial occlusion requiring surgical thrombectomy or thrombolysis
  - Arteriovenous fistula / pseudoaneurysm at 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.
  - Sepsis (rare)

- Minor complications include:
  - Groin bruise and pain
  - Complications related to contrast medium injection – rash, urticaria, itchiness.
  - Transient neurological deficit which is reversible within 24 hours

### **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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