



Procedure Information

Cerebral Angiogram

Introduction

Cervicocerebral angiogram is a special X-ray examination of brain, head and neck blood vessels to diagnose underlying vessel problems. The purpose is looking for cause of brain hemorrhage 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/ Neuro-surgeon. The procedure will generally be performed under X-ray guidance.



Source:
<https://media.istockphoto.com/id/1421271166/photo/cerebral-angiography.jpg?s=612x612&w=0&k=20&c=1k4VDuctdoxtu3t06RccnFhlO4ZanFAuJnuCQ2uWsDs=>

Procedures

1. The procedure will be performed under local or general anaesthesia and aseptic technique.
2. The doctor will puncture a blood vessel at 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 The needle is then withdrawn, allowing a fine plastic tube (the catheter) to be placed over the guide wire into the blood vessel.
3. The X-ray equipment will then be used to navigate the catheter into the neck region and special dye (contrast medium) will be injected through the catheter and X-rays taken.
4. During the procedure, please refrain from moving the head or talking.
5. As the special dye (contrast medium) passes around the head, a warm feeling over the head and facial region may be experienced, which will soon pass off.
6. The duration of the examination depends on the complexity of the condition.
7. At the end of the procedure, the catheter is removed and puncture site is compressed to stop bleeding.
8. 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.
9. Bed rest for several hours and avoid vigorous movement to prevent bleeding over the puncture site.

Potential Complications

1. Overall death related to cerebral angiography is less than 0.1%.
2. Overall incidence of major complications of cerebral angiography is less than 1%.
3. Major complications include:
 - Permanent neurological deficit (permanent limb weakness, numbness, visual loss).
 - Groin or retroperitoneal hematoma requiring transfusion or surgery.
 - Arterial occlusion requiring surgical thrombectomy, stenting or thrombolysis.
 - Arteriovenous fistula or 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.

4. Minor complications include:
 - Groin bruise and pain.
 - Transient visual loss.
 - Transient neurological deficit which is reversible within 24 hours (limb weakness, numbness).
 - Complication related to contrast medium injected, e.g. rash, urticaria.

Pre-procedure Preparations

1. Consent form is required for this investigation.
2. Please provide information on history of allergy to food and drugs, history of asthma, urticaria, eczema and allergy to contrast medium.
3. Check any bleeding tendency and correct if possible.
4. Fast for 6 hours before the examination.
5. Empty the bladder before the procedure.
6. Skin preparation of the puncture site.
7. During the examination, please follow instructions carefully given by the staff.
8. For diabetic patient on drug, clinician will be consulted for the adjustment of insulin dosage if necessary.

Post-procedure Instructions

1. After the catheter is removed, the puncture site will be compressed for at least 10 to 20 minutes.
2. Continue to monitor for signs of secondary bleeding and swelling at the puncture site.
3. Vital signs such as blood pressure, pulse, and neurological status will be monitored continually.
4. Bed rest according to doctor's instruction.
5. Time to resume diet is depending on the clinical condition.
6. For diabetic patient on drug, clinician will be consulted for the adjustment of insulin dosage if necessary.

Post-procedure Care at Home

Femoral (Groin) Approach

1. Water-proof dressing will be applied after the pressure dressing is removed. It can be changed every day or when it gets wet.
2. Bathing is allowed.
3. If the wound is not completely healed, a band-aid can be applied after cleansing the wound with 70% alcohol or other anti-septic solution.
4. It is common when slight bruise appears at the area around the puncture site, which will subside within a few weeks.
5. If bleeding is noted, pressure should be applied over the wound for about 10 minutes until oozing stopped. Then, a band-aid may be applied.
6. Seek medical advice if the followings occur, e.g. non-stopped wound bleeding, haematoma, redness and swelling, sever itchiness or fever etc.
7. Take adequate rest with only light daily activities after procedure. Please follow your doctor's instructions.
8. Limited movement on affected leg is recommended for the first 2 weeks after the procedure. Avoid excessive exercise on the affected leg, e.g. climbing up and down stairs frequently, running or playing football etc.
9. Pressure should be applied on wound to prevent bleeding while climbing up and down stairs, sneezing, coughing or during bowel opening etc. for the first 2 weeks after procedure.
10. Fiber intake is encouraged to avoid constipation.

Should there be any enquiries or concerns, please consult the attending doctor.

Under the professional care of the doctor, you will gradually recover. We wish you all the best during your treatment and recovery.

If you have any questions after reading the entire leaflet, please write them down in the spaces provided in order for the doctor to further follow-up.

Compiled by Union Hospital Operating Theatre (OT) Governance Committee

The above information is for reference only, please enquire your physician for details
Our Hospital reserves the RIGHT to amend any information in this leaflet without prior notification

