Information on Cerebral Angiogram

Introduction

Cervicocerebral angiogram is a special X-ray examination of brain, head and neck blood vessels to diagnose underlying vessel problems.
One of the most common reasons for cervicocerebral angiogram is to look for underlying 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 and or interventionist.
The procedure will generally be performed under X-ray guidance.

The Procedure

1. The procedure will be performed under local or general anesthesia and aseptic technique.
2. 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 The needle is then withdrawn, allowing a fine plastic tube (the catheter) to be placed over the guide wire into the blood vessel.
3. The X-ray equipment will then be used to navigate the catheter into your neck region and special dye (contrast medium) will be injected through the catheter and X-rays taken.
4. During the procedure, you should not move your head or talk.
5. As the special dye (contrast medium) passes around your head, you may get a warm feeling over your head and facial region, which will soon pass off.
6. The duration of the examination is different for every patient, it depends on the complexity of the condition. At the end of the procedure, the catheter is removed and puncture site is compressed to stop bleeding.
7. Your 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.
8. You should have 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 includes:
   - 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 / pseudoaneurysm at puncture site
   - 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 rare.
   - Breakage and knot forming of catheter or guidewire is very rare, this may require surgical removal.

4. Minor complications includes:
   - Groin bruise and pain
   - Transient neurological deficit which is reversible within 24 hours (limb weakness, numbness)
   - Transient visual loss

Patient's Label
Patient Name: _____
Hospital No:_____
Episode No:_____

5. 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.
- **Death**: Contrast medium may cause severe allergic reaction and leading to death but it is extremely rare

Before the Procedure

1. 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 drugs, and contrast medium.
2. Check any bleeding tendency and correct if possible.
3. Fast for 6 hours before the examination.
4. Empty the bladder before the procedure.
5. Skin preparation of the puncture site.
6. During the examination, you are advised to listen carefully to the instructions given by our staff.
7. For diabetic patient on drug - consult clinician concerned for the adjustment of insulin dosage if necessary.

After the Procedure

1. After the catheter was removed, the puncture site has to be compressed for at least more than 10mins.
2. Continue to watch for evidence of secondary bleeding and swelling at the puncture site.
3. Continue to check blood pressure and pulse, or neuro-observation.
4. You may need to have bed rest.
5. You may need to continue to fast or take diet as tolerated depending on your condition.
6. For diabetic patient on drug - consult clinician concerned for the adjustment of insulin dosage if necessary.

Remarks

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

Smart Patient Website by Hospital Authority: Cerebral Angiogram (2022)

Patient's Label
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Patient's Signature : _____ Date : _____