



Procedure Information

Catheter Angiography / Angiogram

Introduction

Catheter angiography/ angiogram is a minimally invasive X-ray procedure to examine blood vessels in specific parts of the body. Examination of the blood vessels over the heart (coronary vessels) is beyond the scope of this leaflet.

One of the most common reasons for an angiogram is to see if there is a blockage or narrowing in a blood vessel that may interfere with normal blood flow. Angiogram is also performed to diagnose and locate blood vessel malformations or tumours rich in blood supply. It is sometimes used to define the anatomy of blood vessels before surgery (e.g. prior to organ transplantation or plastic surgery). It is a mandatory procedure before further endovascular interventional procedures.

Common types of angiography include cerebral angiography, pulmonary angiography, renal angiography and coronary angiography.

This procedure is performed by radiologists with special training in interventional radiology. The procedure is generally performed in the Department of Radiology under X-ray guidance. Depending on the patient's circumstance, please discuss with your doctor the better option plans and treatment.

Outcomes

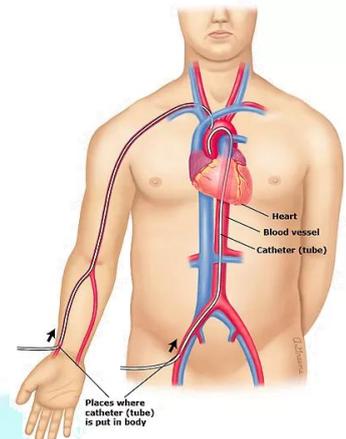
The expected outcome of this procedure is determined on different indications. This procedure can highlight the blood vessels, allowing the doctor to spot any vascular problem.

Procedures

1. This procedure is usually performed under local anaesthesia.
2. A small cut is made in the skin over one of your arteries, usually near your groin or wrist.
3. A long, thin, flexible tube (catheter) is inserted into the artery and is carefully guided to the area being examined.
4. A special dye (contrast agent) is injected through the catheter.
5. A series of X-rays are taken as the dye flows through your blood vessels.
6. Treatment may be carried out at the same time, such as inserting a balloon or a small tube to open up a narrowed artery. This is known as angioplasty.
7. Once the procedure is finished, the catheter is removed and pressure is placed on the cut to stop any bleeding. A special closure device may be used to stop bleeding from the punctured site.

Possible Risks and Complications

1. Complications can be related to the puncture site, the catheter/guidewire or the contrast medium injected.
2. Overall complication rate of angiography with a puncture site at the groin is below 1.8%.



Source:

<https://cardiologytasmania.com.au/wp-content/themes/yootheme/cache/87/Angiogram-diagram-87bdf42b.png>

3. Less than 0.5% of patients have complications related to the puncture site in general.
 - There may be a small bruise (called a haematoma) around the needle puncture site and it is self-limiting normally. The bruise may become large occasionally and require surgery to drain it in hospital.
 - The blood vessel at the puncture site is rarely thrombosed/ obstructed.
 - Abnormal communication is very rarely formed between an artery and a vein.
 - A big clot may compress adjacent nerves and cause paralysis of the arm or leg (rare).
4. Complications related to catheter or guidewire occur in less than 0.5% of patients.
 - Perforation of the blood vessel during catheter/guidewire manipulation and contrast extravasation are the more common types.
 - Dislodgement of plaque in blood vessel wall causing distal vascular obstruction and tissue damage may occur. If the radiologist needs to manipulate the catheters and guidewires in the aortic arch in the chest to retain the shape of the catheter, the plaque in the aorta may dislodge and flow to the brain causing stroke. (Less than 1%)
5. Breakage and knot forming of the catheter or guidewire are very rare. This may require surgical removal.
6. Angiogram of blood vessels in the brain is associated with a slightly higher complication rate of permanent stroke and/or death. Most medical centres reported an overall complication rate for cerebral angiogram less than 1%.
7. The overall adverse reactions related to iodine-based non-ionic contrast medium are below 0.7%. The mortality due to reaction to non-ionic contrast medium is below 1 in 250,000.
8. Overall death rate related to angiography is about 0.03%.
9. Despite these possible complications, angiography is normally very safe. Medical staff will take every step to reduce their likelihood.

** The risks listed above are in general terms and the possibility of complications is not exhaustive. Please understand that even though all procedures are carried out with utmost professionalism and care, this does not rule out the possibility of complications arising.

Pre-procedure Preparations

1. Good hygiene can prevent wound infection. Therefore, we advise you to clean up yourself on the day of the procedure.
2. The procedure and possible complications will be explained by the doctor and a consent form must be signed prior to the procedure.
3. Please inform your doctor and nurse all your past medical history, previous surgical operations, current medication and any complication with drug or anaesthesia.
4. Several drugs, herbs and supplements which influence coagulation ability should be withheld a few days before the procedure.
5. Please inform the doctor and nurse if you are or might be pregnant, or if you breastfeed your baby.
6. Blood tests are performed to assess the liver and renal function, complete blood count and coagulation profile. Correction with transfusion of blood products may be needed before the procedure.
7. Steroids may be prescribed for patients with an allergic history.
8. Prophylactic antibiotics may be administered before the procedure.
9. Shaving on the procedure site may be needed as required.
10. No food or drink six hours before the procedure.
11. Intravenous access is established.
12. Please change into a surgical gown after removing all belongings including undergarments, dentures, jewellery and contact lenses.
13. Please empty your bladder before the procedure.

Post-procedure Instructions

1. Your vital signs (e.g. blood pressure, pulse) and puncture site are monitored closely after the procedure.
2. Please inform the nurse immediately if bleeding from the puncture site, decrease sensation of the punctured limb, or any other discomfort.
3. You may need to stay in hospital overnight as doctor's advice.
4. Bed rest and limited movement of the punctured limb for up to 24 hours is required after the examination. It is to prevent re-bleeding at the needle puncture site.
5. You can eat and drink as soon as you feel ready to. The contrast dye leaves your body in your urine, so drinking plenty of water can help flush it out faster.
6. You can usually return to most normal activities the next day, although you may need to avoid heavy lifting and strenuous exercise for a few days.
7. You will probably have some bruising and soreness at the puncture site for at least a few days.

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
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