Taichung Armed Forces General Hospital
Angiography Instructions
血管攝影檢查說明書

This instruction sheet shall be kept by patient (or patient's family)

These instructions provide details about the benefits, risks, and alternative options for the medical procedure you are about to undergo. It can serve as supplementary information for your discussion with your physician. It is important to us that you fully understand what is described in this file, so please read it carefully. If you still have questions after your doctor has explained the examination to you, please discuss your questions sufficiently with your doctor before you sign the form. Your doctor will be happy to answer your questions. Let's work together for your health.

Introduction to vascular angiography

X-ray angiography is a special imaging method used to examine the blood vessels across the body, including the head and neck, lungs, abdomen, limbs, and spine. Angiography is one of the most important and detailed methods for examining blood vessels in the body. It shows whether there are any abnormalities in the blood vessels (such as narrowing, blockage, and rupture), and also reveals the location of lesions relative to the blood vessels, as well as the distribution of blood vessels within the lesions, providing crucial basis for physicians in diagnosing and treating conditions.

Precautions before examination

- The day before the angiography, try to consume liquid foods, and avoid eating anything for 8 hours before the exam (but continue taking necessary medications such as antihypertensives, asthma medications, and antiepileptic drugs, as prescribed by your doctor). The day of the exam or the day before, the nurse on duty will shave the hair for you at the site where the catheter will be placed to reduce the risk of infection. The most common puncture site for angiography is the right groin area, but depending on the patient's condition, it may also be done at the neck, elbow, armpit, or other areas.
- Please carefully read the precautions and complete the [Angiography (Embolization) Consent Form] and the [Contrast Agent Injection Consent Form]. Please ensure that at least one family member waits outside the examination room to accompany you during the procedure.
- If you have a history of allergies (such as asthma, allergic rhinitis, or food or drug allergies), please inform the staff in the examination room before the exam.
- It is important that you stay relaxed and cooperate with the medical professionals.

Examination process

During the angiography, the patient lies flat on the examination table in a supine position, and the radiologist will disinfect the groin area. Local anesthesia is typically administered at the groin area, followed by a needle puncture into the artery. A catheter is then guided along the artery to the area to be examined, and a contrast dye is injected for X-ray imaging. Throughout the procedure, the patient remains awake and can communicate with the medical professional. You will not feel anything when the catheter is placed, but you may feel a burning sensation when the contrast dye is injected. In special cases, punctures may be performed at the elbow or armpit. Typically, the entire procedure takes at least one hour, though it may take several hours depending on the patient's condition.

Does this examination involve any hazard?

Complications from angiography can be categorized as follows:

- Complications related to vascular puncture: These include pain or discomfort at the puncture site, varying degrees of bleeding (minor bruising >5%, severe bruising <0.5%), vascular damage (arteriovenous fistula 0.05%, aneurysm 0.01%, vascular occlusion 0.1%), potential bacteremia or systemic infection, blood clot embolism, and even stroke. In addition, unexpected allergic reactions to local pain-relieving anesthetics can cause death.

- Complications related to contrast dyes: These include allergic reactions of varying severity (such as fever, nausea, vomiting, and subsequent choking or aspiration pneumonia, skin rash, difficulty breathing, tachycardia, asthma, head swelling, bronchospasm, or even shock and sudden death) or kidney damage (which may lead to kidney failure requiring emergency or lifelong dialysis).
- Complications related to the catheter: The catheter may cause small blood clots, especially in patients with arterial sclerosis, when operating in the blood vessel. If the clot blocks the distal end of a non-targeted blood vessel, it can lead to organ or tissue infarction (including stroke). Other potential complications include arterial dissection, vascular spasm, or blockage. To minimize the risks, your allergy history, coagulation function, and kidney function must be thoroughly assessed before the procedure, and appropriate measures must be taken. Our medical team will do their best to reduce the likelihood of complications.

Who are not suitable for angiography?

Angiography involves puncturing large blood vessels and injecting an iodine-based contrast agent while using X-ray imaging. Therefore, it is unsuitable for certain conditions, such as pregnancy, a history of contrast allergies, asthma, chronic kidney disease, liver dysfunction, multiple myeloma, other drug allergies, coagulation disorders, and thyroid abnormalities.

Alternative options

With increasingly advanced equipment, non-invasive ultrasound, CT scans, and MRI have become important tools for diagnosing lesions. The most suitable or diagnostically accurate tool depends on the disease and the individual's condition. You may discuss with your doctor and consider other clinical or imaging examinations before deciding whether to undergo this procedure.

Precautions after examination

- After the examination, pressure will be applied to the puncture site to stop any bleeding. The patient must lie flat for 8 hours and remain as relaxed as possible, and avoid unnecessary movement. A sandbag will be placed on the puncture site for 2 hours (every 30 minutes, the family member should lift the sandbag to check for any bleeding or abnormalities and then reapply it).
- The affected limb should not be raised or bent forcefully for 6 hours. If there is a feeling of heat or moisture at the puncture site, the family member should immediately check for bleeding. If the patient experiences cold or numbness in the foot, the nurse should be notified immediately to inform the doctor for action.
- For patients not required to fast for a long term, if there are no discomforts after the examination, water or small amounts of liquid food can be taken after returning to the ward for 2 hours (normal eating may start if no vomiting occurs within half an hour). If vomiting occurs, continue observing for at least 2 hours before consuming liquids or food.
- After 24 hours, remove the gauze and adhesive bandage over the wound at the groin area gently by moistening it with water. Otherwise, the skin may develop rashes or blisters, or even break.
- If bruising occurs at the puncture site (groin area) after 72 hours, apply warm compresses to the affected area 3 to 4 times a day for up to 15 minutes each time.
- For patients who underwent embolization, mild abdominal pain and a burning sensation in the affected area may occur within 2 to 3 days, and mild fever may occur within 7 to 10 days.
- If you experience any discomfort, feel free to ask the medical professionals in the ward or contact the professionals in this department.

※ If you wish to cancel the examination, please call the registration desk of the Radiology Department promptly at 04-23934191, extension 525415, to pass the opportunity of undergoing this examination to someone who needs it.

Taichung Armed Forces General Hospital
Angiography (Embolization) Consent Form

(Please review the examination instructions carefully and wait for the doctor to explain the examination to you before signing the consent form)

* Basic Information

Patient Name_____

Patient Date of Birth_____YYYY_____MM_____DD

Patient Medical Record No._____

Name of Attending Physician_____

I. Examination (procedure or treatment) planned (provide brief explanation if not familiar with the medical terms)

1. Disease name:

2. Name of examination (procedure or treatment) planned:
□ Angiography □TAE □Other

3. Reason for planned examination (procedure or treatment)

II. Physician statement

1. I have explained the examination (procedure or treatment) to the patient in ways as comprehensible as possible to provide the patient with the relevant information, particularly the following:

□ Reason why the examination (procedure or treatment) must be performed, method and site of the examination (procedure or treatment), and risks of the examination (procedure or treatment).

□ Examination (procedure or treatment) complications and possible management methods.

□ I have clearly informed the patient of the potential allergic reactions to the contrast agent.

□ Patients with any of the following conditions have an increased risk of allergy. Heart, lung, and vascular diseases (impaired cardiac function, hypertension, arteriosclerosis and emphysema). Cirrhosis, liver dysfunction. Kidney dysfunction, uremia. Asthma. Diabetes mellitus for five years or longer. History of allergies (including reactions caused by the injection of iodine-based contrast agents, and allergies to food, other medications, pollen, or other allergens). A senior age with poor physical condition (72 years or above). A young age (infants or small children of two years or younger)

□ I have given the patient any other information available related to the treatment.

2. I have provided the patient with adequate time to ask the following questions about the examination (procedure, treatment) and I have answered the questions:

(1) ----------

(2) ----------

(3) ----------

Signature of attending physician:

Date: YYYY MM DD

Time: hh mm

III. Patient statement

1. The doctor has explained to me and I have understood the information related to the necessity, steps, and risks of the examination (procedure or treatment).
2 The doctor has explained to me and I have understood the possible prognosis of the examination (procedure or treatment) and risks if the examination is not performed.
3. The doctor has explained to me that situations that are immediately life-threatening, if any, during the examination (procedure or treatment) will be treated according to appropriate steps.
4. I understand that this examination (procedure or treatment) may be the best option now.

Based on the above statement, I hereby give my consent to this examination (procedure or treatment).

Statement by woman of childbearing potential: The doctor has clearly informed me of the risks this examination may pose to a pregnant woman and the fetus.

Signature:_____

Consenter Signature: Relationship to patient:

Address: Telephone:

Date: YYYY MM DD Time: hh mm

Witness: Signature:

Date: YYYY MM DD Time: hh mm

Notes:

I. If the consenter is not the patient, the relationship to the patient should be indicated in the "Relationship to patient" field.
II. The fields for the witness may be left blank if no witness is available.
III. If the patient is a minor, a legal representative should sign the consent form.

IV. Complications from angiography can be categorized as follows:

1. Complications related to vascular puncture: These include pain or discomfort at the puncture site, varying degrees of bleeding (minor bruising >5%, severe bruising <0.5%), vascular damage (arteriovenous fistula 0.05%, aneurysm 0.01%, vascular occlusion 0.1%), potential bacteremia or systemic infection, blood clot embolism, and even stroke. In addition, unexpected allergic reactions to local pain-relieving anesthetics can cause death.
2. Complications related to contrast dyes: These include allergic reactions of varying severity (such as fever, nausea, vomiting, and subsequent choking or aspiration pneumonia, skin rash, difficulty breathing, tachycardia, asthma, head swelling, bronchospasm, or even shock and sudden death) or kidney damage (which may lead to kidney failure requiring emergency or lifelong dialysis).
3. Complications related to the catheter: The catheter may cause small blood clots, especially in patients with arterial sclerosis, when operating in the blood vessel. If the clot blocks the distal end of a non-targeted blood vessel, it can lead to organ or tissue infarction (including stroke). Other potential complications include arterial dissection, vascular spasm, or blockage. To minimize the risks, your allergy history, coagulation function, and kidney function must be thoroughly assessed before the procedure, and appropriate measures must be taken. Our medical team will do their best to reduce the likelihood of complications.

V.Alternative options

Non invasive ultrasound, CT and MRI. The most suitable or diagnostically accurate tool depends on the disease and the individual's condition. You may discuss with your doctor and consider other clinical or imaging examinations before deciding whether to undergo this procedure.

Radiology Department of Taichung Armed Forces General Hospital Contrast Agent Injection Consent Form

Examinations involving the intravenous injection of a contrast agent utilize the contrast's effect on the area to be examined to enhance and improve the visibility of the organs or lesions under examination to reach a diagnosis. Conventional ionic iodine-based contrast agents may cause allergic reactions in a small number of patients (the incidence of allergic reactions is 10%). Symptoms include nausea, vomiting, skin rashes, itching, and in a few severe cases, shock or even sudden death (the reported mortality rate is approximately 1 in 100,000, according to international statistics). However, if you have any of the following conditions, you have a significantly increased risk of allergy.

□ 1. Heart, lung, and vascular diseases (impaired cardiac function, hypertension, arteriosclerosis and emphysema).

□ 2. Cirrhosis, liver dysfunction.

□ 3. Kidney dysfunction, uremia.

□ 4. Asthma.

□ 5. Diabetes mellitus for five years or longer.

□ 6. History of allergies (including reactions caused by the injection of iodine-based contrast agents, and allergies to food, other medications, pollen, or other allergens).

□ 7. A senior age with poor physical condition (72 years or above).

□ 8. A young age (infants or small children of two years or younger).

□ 9. Critical illness.

If you have any of the above conditions, please indicate a ˇ in the corresponding □

Signature of patient or family:_____

If the patient is a minor, a legal representative should sign the consent form.

※Please read these instructions before deciding to sign the examination consent form※

Date: YYYY MM DD Time: hh mm

Name:_____

ID No.:_____

Date of birth: ___YYYY___MM___DD

Radiology Department of Taichung Armed Forces General Hospital

Pre-Contrast Injection Risk Assessment Form

※ **Please read the following questions first and complete the known ones. The remaining questions will be completed by the doctor in the examination room.**

Have you ever had a history of allergies in the past? Allergy

☐ None

☐ Previous allergy to a contrast agent injected, and the type of allergy is:_

☐ Allergy to food, drug or others, and the type is:___

☐ Not known

Contraindication

☐ None

☐ Severe hyperthyroidism

☐ Severe de-compensated heart failure

☐ Severe hepato-renal dysfunction

☐ Oliguria or anuria

Assessment of high risk conditions

☐ None

☐ Asthma, allergy constitution

☐ Renal dysfunction

☐ Cardiovascular disease

☐ Pulmonary hypertension

☐ Cerebral disease

☐ Thyroid disease

☐ Pheochromocytoma

☐ On metformin for diabetes mellitus

Cre values in recent three months:_____(mg/dL)___

Evaluation physician:_____ Date: YYYY MM hh mm