

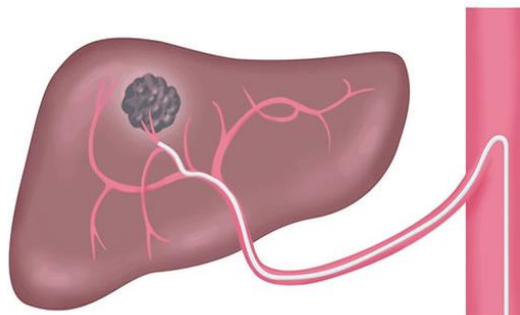


## Procedure Information

### Transarterial Chemoembolization (TACE)

#### Introduction

Embolization is a treatment that blocks or slows down the blood supply to tissues or an organ. It can be used to block the flow of blood to a tumor so the cancer cells die. When the material used to block the blood supply also delivers chemotherapy drugs to the tumor, it is called chemoembolization. Transarterial means the procedure is done via an artery. Transarterial chemoembolization (TACE) is a specific type of chemoembolization that blocks the hepatic artery to treat hepatocellular carcinoma (HCC).



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There are two major techniques of TACE:

- conventional TACE using iodized oil and gelatin sponge particles
- TACE with drug-eluting beads

When the gelatin sponge and iodized oil, or the drug-eluting beads block blood flow to the tumor as the chemotherapy drugs are retained in the blood vessel or as the beads release the drug, this allows a higher amount of drug to reach the tumor for a longer period of time. It may kill more cancer cells and cause fewer side effects because very little of the drug reaches other parts of the body.

There are no standard recommended chemotherapy drugs for TACE. The drugs that may be used alone or together are doxorubicin (Adriamycin), cisplatin (Platinol AQ) and mitomycin C (Mutamycin). The purposes of using these chemotherapy drugs are causing tumor cell death and suppressing tumor growth.

Generally, this procedure will be repeated every two to three months according to the treatment plan. The number of treatment sessions depends on the response of the tumor and whether serious side effects are seen.

#### Indications

1. Unresectable HCC, with relatively preserved liver function, and with no extrahepatic tumor spread, or vascular invasion
2. "Bridging" therapy to keep a liver tumor small in patients who are waiting for liver transplantation
3. For selected patients prior to resection of a large HCC
4. Regional recurrence in the liver after previous resection of HCC

#### Outcomes

It is expected that the liver cancer cells are killed, the reforming of cancer cells is stopped and the growth of cancer cells is delayed. The overall response rate of the tumor to this treatment is up to 60%. Complete disappearance of the tumor is rare.

## **Procedures**

1. This procedure is usually performed under local anaesthesia.
2. The procedure is performed under image guidance.
3. The femoral artery in the groin is punctured with a catheter and the catheter is manipulated into the hepatic artery.
4. Contrast is injected into the catheter to visualize the arteries.
5. The catheter is manipulated into the target artery that feeds the tumor.
6. TACE material is injected into the target artery by one of the following ways:
  - conventional TACE using iodized oil and gelatin sponge particles
    - a chemotherapy drug or a combination of chemotherapy drugs and an iodized oil are injected into the target artery, followed by injection of gelatin sponge particles; or
    - the gelatin sponge particles are soaked in a chemotherapy drug or a combination of chemotherapy drugs and an iodized oil are injected into the target artery.
  - TACE with drug-eluting beads
    - The drug-eluting beads that already have chemotherapy drugs in them are injected into the target artery.
7. The catheter is withdrawn and the groin wound is compressed to stop bleeding from the artery.

## **Possible Risks and Complications**

1. Postembolization syndrome occurs in 60-80% of patients
  - Including varying degrees of right upper quadrant pain, nausea, a moderate degree of ileus, fatigue, fever, and transient elevation of serum liver enzyme and bilirubin values.
  - Symptoms are usually self-limited, lasting three to four days; full recovery is typical within 7 to 10 days.
2. About 20% of patients may develop more severe complications, which include:
  - Complications related to femoral artery puncture and catheterization of the hepatic artery: bleeding, haematoma, dissection or thrombosis of the artery and embolism of the lower limb
  - Complications related to chemoembolization: liver failure, renal failure, infection of necrotic tumor, liver abscess, rupture of tumor, peptic ulcer, gastrointestinal bleeding, acute cholecystitis, acute pancreatitis and pancytopenia related to chemotherapy
  - Side effects of contrast: hives, itchy, flu-like symptoms, and other anaphylactic reactions. Steroid cover may be necessary for patients who have an allergic history.
3. Treatment-related mortality rates from TACE are less than 1%, but higher rates (2-3%) in patients with very large tumors.
4. The majority of patients with complications recover with appropriate treatment, but the complications can be fatal in some cases. Patients who develop a severe complication or significant deterioration of liver function may have to discontinue the treatment.

\*\* 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 treatment.
3. Please inform the 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. No food or drink six hours before the procedure.
9. Intravenous access is established.
10. Prophylactic antibiotic is administered.
11. Please change into a surgical gown after removing all belongings including undergarments, dentures, jewellery and contact lenses.
12. Please empty your bladder before the procedure.

## **Post-procedure Instructions**

1. You are checked often for possible bleeding from the puncture site, sensation and circulation of your lower limb, and any breathing difficulty you may have.
2. Please inform the nurse immediately if pain or bleeding from the puncture site, decrease sensation of the punctured leg, difficulty breathing or any other discomfort.
3. Bed rest and limited movement of the affected limb for at least 12 hours until hemostasis of the puncture site has been achieved.
4. Intravenous infusion is continued. You are encouraged to drink fluid at least 2 liters per day if not contraindicated (such as having a cardiac or renal condition that requires limitation of fluid intake).
5. Blood tests will be performed on the day after the procedure to monitor the liver and renal function.
6. Depending on your circumstance, most patients usually can be discharged the next day but some patients may have to stay longer.

## **Advice on Discharge**

1. Please comply with the medication regime as prescribed by your doctor.
2. It is normal to have a minor fever up to 1 week. Fatigue and loss of appetite are also common and may last 2 weeks or longer. Normally, medications for fever and nausea are prescribed.
3. Complete the course of antibiotics started before the procedure to lower the risk of infection.
4. Keep the wound dressing clean and dry. Normally the wound dressing can be removed in a few days after the procedure.
5. Avoid contacting people with respiratory diseases within 4 weeks after the operation. Please wear a surgical mask when you are in crowded places.
6. Avoid vigorous exercise for at least 4 weeks.
7. Immediately consult your doctor or return to hospital for professional attention in the event of swelling or pus discharge from the puncture site, bleeding, chest pain, difficulty breathing, diminishing sensation of legs, shivering, high fever over 38°C or 100.4°F, or any other unusual symptoms.
8. Any follow-up consultations should be attended as scheduled.

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.

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Compiled by Union Hospital Operating Theatre (OT) Governance Committee

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Our Hospital reserves the RIGHT to amend any information in this leaflet without prior notification

