

# **TRANSARTERIAL CHEMO-EMBOLIZATION (TACE)**

## *Information for patients*

### **Introduction**

- Hepatocellular carcinoma is one of the most common malignancies in Hong Kong. Only a portion of patients can benefit from curative surgical treatment.
- TACE is an alternative or adjunct measure to unresectable hepatocellular carcinoma (HCC). Depending on the stage of tumour, TACE may be curative or palliative.
- This procedure is performed by radiologists with special training in interventional radiology in the Department of Radiology under image guidance.

### **Procedure**

- Before the procedure, you will be given fluid through the intravenous line, antibiotics to prevent infection and drug to relieve vomiting.
- The procedure is performed under local anaesthesia. The femoral artery at groin region is punctured for arterial access.
- Angiography is performed for demonstration of vascular structures before embolization, and is also used for confirming the patency of portal vein. The arteries supplying the tumor are selectively catheterized, this includes the hepatic arteries or other extrahepatic collateral arteries: examples are arteries supplying the diaphragm or chest wall. In order to spare normal liver tissue, superselective catheterization with a smaller catheter through the original catheter may sometimes be required. The chemotherapeutic mixture and the embolic material are then injected through the catheter. The gastroduodenal artery may occasionally be blocked with metallic coils to facilitate the injection of chemotherapeutic mixture.
- The chemotherapeutic agent(s) is mixed with lipiodol (an oily contrast) to enhance tumour uptake. Following delivery of the lipiodol/chemotherapy mixture, small gelfoam particles may be injected to reinforce the effect of treatment.
- The procedure usually requires 1 to 2 hours.
- After the procedure, your vital signs, urine output and liver function will be monitored. Diet can be resumed if the vital signs are stable.
- You may feel nausea or vomit, have abdominal pain and low grade fever in the first few days. You will be given antibiotics if there is clinical sign of infection. Drugs will be given for vomiting and pain.
- You will be discharged if there is no signs of infection and your liver function is stable. You will then be followed up in the out-patient clinics and with imaging studies (like CT or MRI).
- Depending on the response of the tumor to treatment and on your general clinical condition, more sessions of TACE may be arranged. Other adjuvant treatment may also be offered to augment the result of TACE.

## Potential Complications

- Post-embolization syndrome: 80-90%. It consists of fever, nausea, vomiting, right upper abdominal pain, sluggish bowel motion, and elevated serum liver function tests. This syndrome is self-limited, which usually lasts for few days.
- Injury to the main supplying artery, such as coeliac or hepatic arteries, which may prevent further TACE (<2.7%).
- Occlusion of supplying arteries after repeated TACE, making further TACE difficult or impossible.
- Bile duct injury causing bile duct stricture or dilatation, accumulation of bile inside the liver (biloma formation) – especially after repeated TACE (3%).
- Liver abscess: 0.2%.
- Liver failure and infarction: rare. The condition is dependent on the pre-procedure liver function of patients.
- Tumour rupture: rare.
- Hiccough: rare.
- Non-target embolization to the gut leading to bowel infarction: rare.
- Pulmonary oil embolism: leading to lower blood oxygenation and shortness of breath. This may occur 2-10 days after TACE. It is rare and depends on the amount of lipiodol given.
- Gall-bladder infarction/ ischaemia due to occlusion of the artery to the gall bladder: rare.
- Formation of multiple intrahepatic arterial aneurysms (abnormal outpouch): rare.
- Drop in platelet count and haemoglobin level: rare.
- If mixture has to be given in the extrahepatic collateral arteries, other side effects may occur, this may include:
  - Shoulder pain
  - Skin rashes
  - Skin necrosis
  - Spinal cord injury (very rare)
  - Fluid accumulate in pleural cavity
  - Pus in pleural cavity
- Complications relating to groin arterial puncture and catheter manipulation, such as big clot formation, arterial injury, occlusion of arteries in the lower limb: uncommon.
- Procedure related death is rare.
- 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 250000.

## Disclaimer

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