

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. Sometimes it may be used prior to other curative treatments like radiofrequency ablation, tumor resection or liver transplantation.
- 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. Depending on the findings, some patients may be deemed unsuitable for TACE and the doctor may stop the procedure at this juncture, e.g. in patients with severe communication between the hepatic artery and portal vein.
- The arteries supplying the tumor are selectively catheterized. 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.
- Traditionally, the chemotherapeutic agent(s) is mixed with lipiodol (an oily contrast) to enhance treatment effect. Following delivery of the lipiodol/chemotherapy mixture, small gelfoam particles may be injected to reinforce the effect of treatment.
- New chemo-embolic agents such as drug eluting beads may be injected. In such cases, your doctor will discuss with you beforehand.
- 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.
- Transient liver function derangement is common. Risk of reversible liver failure is 20% per session. Risk of irreversible liver failure is 3% per session. After repeated sessions of TACE, the chance of liver derangement leading to termination of further TACE is 10-16%. Liver failure can present as jaundice, ascites, impaired conscious state (hepatic encephalopathy).
- Puncture site bleeding or hematoma (big clot): 1.6-7%.
- Septicemia (a severe form of infection): 1.5%.
- Renal function impairment: 1-2.5%.
- Tumour rupture leading to bleeding into abdominal cavity: 1.2-1.5%.
- Liver abscess: 0.2%.
- Formation of multiple intrahepatic arterial aneurysms (abnormal outpouch): Rare.
- Splenic abscess, acute pancreatitis: Rare.
- Gall-bladder infarction/ ischaemia due to occlusion of the artery to the gall bladder: Rare.
- Non-target embolization to the gut leading to bowel infarction: Rare.
- Drop in platelet count and haemoglobin level: Rare.
- Other complications relating to groin arterial puncture and catheter manipulation, such as arterial injury, occlusion of arteries in the lower limb: Uncommon.
- 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.
- Flow of lipiodol to other organs like brain and spinal cord, causing stroke and paraplegia: very rare.
- Procedure related death is rare.
- Some clinical studies show that TACE with drug eluting beads has less severe side effect than conventional TACE.
- 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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