

Transarterial Chemoembolization – For Patients

What is TACE?

Trans-Aarterial-Chemo-Embolization (TACE) is a palliative treatment or bridging treatment for liver cancer. The cancer can be originating in the liver (hepatocellular carcinoma or hepatoma) or a cancer that has spread ("metastasized") to the liver from other areas in the body. During Chemo-embolization, the drug(s) are injected directly into the artery that supplies blood to the cancerous tumor in the liver in combination with either beads, particles, other blocking agents, or other mixing agents like oil (lipiodol), to block off ("embolize") the blood supply to the tumor.

Therefore, TACE is a combination of local delivery of chemotherapy and a procedure called embolization to block of the blood supply to the tumor and trap the chemotherapy in the tumor.

Note that sometimes chemotherapy will not be used based on your disease. Instead, you may need only Transarterial Bland embolization (which is blocking the arteries with particles and frequently mixed with special iodized oil without using chemotherapy). The choice between chemoembolization and bland embolization or any other possible treatment(s) will be discussed by your Interventional Radiologist as to what is best and why.

How does TACE work?

The liver is unique in having two blood supplies; an artery (the hepatic artery) and a large vein (the portal vein). The normal liver gets about 75-80% of its blood from the portal vein and only 20-25% of its blood from the hepatic artery. When a tumor grows in the liver, it receives almost all of its blood supply from the hepatic artery. Therefore, when chemotherapy material is injected into the hepatic artery in the liver, it reaches the tumor very directly, sparing most of the other liver tissue, and other body organs. Then, when the artery is blocked, nearly all of the blood supply is diverted away from the tumor, while the liver continues to be supplied by blood from the portal vein.

This procedure accomplishes four things:

- 1) The tumor becomes deprived of oxygen and nutrients once the blood supply is blocked.
- 2) Because the chemotherapy drug(s) are injected directly at the tumor site, this dosage is 20 to 200 times greater than that achieved with standard chemotherapy injected into a vein in the arm (systemic chemotherapy).
- 3) Because the artery is blocked, no blood washes through the tumor. As a result, the drugs stay in the tumor for a much longer time.
- 4) There is a decrease in side effects because the drugs are trapped in the liver instead of circulating throughout the body.

What liver tumors are treated with TACE?

TACE is most beneficial to patients whose disease is predominately limited to the liver, whether the tumor began in the liver or spread to the liver (metastasized) from another organ.

Cancers that may be treated by TACE include:

- Hepatoma or hepatocellular carcinoma (primary liver cancer)
- Metastasis (spread) to the liver from:
 - o Colon cancer
 - o Breast cancer
 - o Carcinoid tumors and other Neuroendocrine tumors
 - o Islet cell tumors of the pancreas
 - o Melanoma
 - o Sarcomas
 - o Other vascular primary tumors in the body

Some success has been demonstrated with patients whose cancer has spread to other areas of the body.

Depending on the number and type of tumors, TACE may be used as the sole treatment or may be combined with other treatment options such as surgery, chemotherapy, radiation therapy, or radiofrequency ablation. The decision to pursue this treatment is usually made based on a consultation and review by several Doctors in a tumor board consisting of Interventional radiologists, liver surgeons, transplant liver surgeons, Oncologists and radiation oncologist.

Will your physician recommend you for this procedure?

The Interventional Radiologist may recommend that you have several tests, including liver function blood tests, and a CAT scan or an MRI of your liver prior to the Chemo-embolization procedure. Your doctor (Interventional Radiologist) needs to check these test to make sure the procedure can be done safely. Your doctor may not recommend you to have the procedure for your own safety.

How do you prepare for the procedure and what is it like?

The evening before the exam you may not eat or drink anything (NPO) after midnight. You're allowed to take your normally scheduled medications with sips of water. You will arrive at the hospital early in the morning. Once here, you will relax in your room for several hours while an intravenous (IV) line, placed in your arm, allows IV fluids to drip into your body. These fluids consist of antibiotics, and other medications that are needed prior to your TACE procedure. Based on your situation, you will have conscious sedation or general anesthesia. Once the procedure begins, the doctor (Interventional Radiologist) will place a small catheter (a small tube) in an artery in your groin and perform an arteriogram which will specifically look at the arteries in your liver. After these arteries are identified, A micro catheter is directed into the branch of the artery supplying blood to the tumor, and the Chemo-embolization material is injected. Once this is completed, you will be sent back to your room where you will lie flat in bed for six hours. You will stay overnight in the hospital, and more IV fluids are given to you overnight and any medications needed.



Knowledge that will change your world

Are there any side effects or complications?

Following the procedure you may have varying degrees of pain, fever and nausea. These symptoms may last a few hours to a few days, and are easily treated by various medications. You may also notice slight hair loss, rarely perceived by anyone other than yourself.

Serious complications from TACE are rare. In less than 3% of the procedures, the liver tumor that is killed by the procedure may become infected and develop into an abscess. The risk of serious liver failure is about 1%, but largely based on your pre-existing liver function and individual health status.

Will TACE help me?

Remember, TACE is a palliative treatment, not a cure. Depending on the type of liver cancer, it may improve your survival.

If I have other questions, who do I contact?

For further questions or concerns about TACE, please contact Interventional Radiology at 205-934-0152, 205-934-7245, 205-975-4850.