Trans-arterial Chemoembolisation (TACE) with Drug-Eluting Beads

A minimally invasive treatment for liver cancer
What is chemoembolisation?

Chemoembolisation is a treatment that combines the deliberate blocking (embolisation) of the blood supply to the tumour with an embolic material (such as Drug-Eluting Beads) and delivery of chemotherapy (cancer drugs) directly into the blood vessels which supply the tumour.

The treatment attacks the cancer in two ways. First, it delivers a very high concentration of chemotherapy directly into the tumour, without exposing the entire body to the effects of those drugs. Second, the procedure cuts off the blood supply to the tumour, trapping the cancer drugs at the site and depriving the tumour of the oxygen and nutrients it needs to grow.

Why do I need a chemoembolisation?

Chemoembolisation is a procedure used to treat tumours in the liver. Two kinds of cancer commonly affect the liver:

- Hepatocellular carcinoma (HCC), also known as a primary cancer, which is when the cancer started in the liver
- Metastatic cancer of the liver, also known as secondary cancer, is a tumour due to cancer which has spread to the liver from a different primary site, for example the colon or breast

What are Drug-Eluting Beads?

Trans-arterial chemoembolisation (TACE) has been used to treat liver cancer for nearly 25 years. Drug-Eluting Beads are an embolic used for TACE. Drug-Eluting Beads block the blood flow to the target tissue and deliver a local and sustained dose of drug directly to the tumour.

Who undertakes the chemoembolisation process?

Pre-procedure
Your consultant will discuss your case with a group of specialists in order to be able to recommend the best treatment option for you.

The procedure
Chemoembolisation is a minimally invasive (non-surgical) procedure performed by a doctor called an interventional radiologist, who is a specialist trained to perform this kind of treatment.
The procedure

The procedure is normally performed under local anaesthesia with conscious sedation, which means you will be awake and able to talk to the doctors and nurses looking after you during the procedure.

A small cut is made in the skin at the entrance of a large vessel in your groin (the femoral artery), in order to insert the catheter. The catheter is then directed to the liver using special imaging (X-ray) equipment. You may feel slight pressure but no serious discomfort.

Contrast media (X-ray dye) is injected through the catheter and a series of images will be taken in order to check that the catheter is correctly positioned. You may get a warm feeling when the contrast media passes through your body.

Once this is done, Drug-Eluting Beads, which have been loaded with the chemotherapy drug, are injected through the catheter. Images will be taken during the procedure to ensure the Drug-Eluting Beads are delivered correctly.

At the end of the procedure, the catheter will be removed and pressure will be applied to the groin to stop any bleeding. Sutures are not usually required.

This procedure usually takes around 90 minutes to be completed.

How do I prepare for chemoembolisation?

Medication and chemotherapy treatment
If you are receiving chemotherapy, this may be stopped before the chemoembolisation procedure. Your doctor will discuss this with you. You must inform your doctor of any medication you are taking and discuss whether you should continue taking these medicines.

Eating and drinking
You will be asked not to eat and drink for a period of time before the procedure.

Medical preparation
Blood tests prior to your procedure will determine how well your liver and kidneys are functioning.

You may be given fluids through the intravenous line, pain relief, antibiotics to prevent infection and drugs to prevent nausea.

If you have any allergies, you must let your doctor know.
After The Procedure

Monitoring
After the procedure, your vital signs (heart rate, breathing rate, blood pressure and temperature), urine output and liver function will be monitored. You can eat and drink if all the vital signs are stable.

When can I go back home?
You will be able to go home shortly after the procedure. Most patients are able to leave the hospital within a day or two after the procedure.

Side effects
During the first two weeks following the procedure, you may not be able to undertake your normal activities due to the side effects of chemoembolisation, referred to as post-embolisation syndrome (PES). The most common symptom of PES is abdominal pain because the blood supply to the tumour is cut off. You may also feel tired, nauseous, have a mild fever and loss of appetite. In general, these are all signs of a normal recuperation. You may be given medicines to minimise these symptoms.

Follow up
During the first month following the procedure, you should check in regularly to let your physician know how your recovery is progressing. You will then be followed up in the out-patient clinic and with scans (eg CT or MRI).

Depending on the response of the tumour to treatment and on your general clinical condition, more sessions of chemoembolisation may be arranged and/or other treatments may be offered. Repeating the chemoembolisation procedure is a normal part of managing your cancer.
"I know I would not be here today feeling so well if I had not undergone the treatment... apart from a bit of pain I recovered remarkably quickly... it has changed my life. I am 86 this year and feel very well."

Mrs DS (Devon, UK) was first treated with Drug-Eluting Beads in 2005 for multifocal HCC.