



Chemoembolization for Patients with Functional Neuroendocrine Tumour



What is this cancer?

Neuroendocrine tumours are rare and usually slow growing. It can start in the bowel, lung, pancreas, appendix or the stomach. The type of tumour you have is often called a “Carcinoid Tumour” this terminology is now replaced with term “Functional Neuroendocrine Tumour”.

This type of Neuroendocrine Tumour can produce hormones or chemicals. These tumours are called “functional” and the hormones they produce can cause symptoms that can make you feel sick. Most people have no symptoms until the cancer spreads to the liver.

Symptoms include skin flushing, watery diarrhea, rapid beating of the heart, changes in blood pressure, asthma-like wheezing, shortness of breath and changes to your heart valves. A ‘carcinoid crisis’ is when you feel very strong symptoms. You may not have all of these symptoms if you have a functional tumour.

How can this cancer be treated?

Chemoembolization is one way to treat this tumour. The goal of this treatment is to slow down or stop the growth of tumours in the liver. It is not uncommon to require several embolizations scheduled over several months.

Will the embolization cure my cancer?

This treatment will not cure the cancer. It can be very effective in decreasing the tumour size or it may stop its growth. It does not seem to matter if the tumour deposits shrink or stay the same size, there is benefit in both cases. In many situations, individuals are able to return to work and do the activities they enjoyed prior to their cancer diagnosis.

Who does the chemoembolization?

The Chemoembolization is a specialized procedure done by an Interventional Radiologist. Our Radiologist, will meet you before your first embolization and answer any additional questions you may have about the procedure.

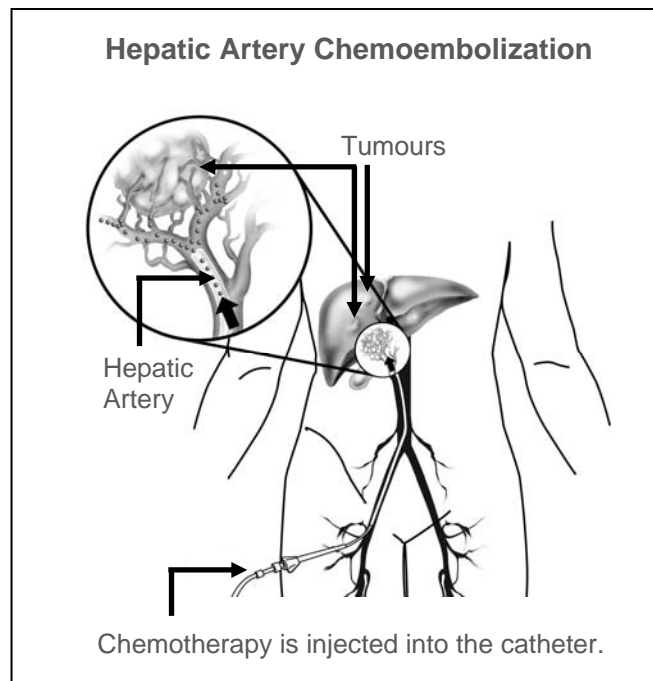
What is chemoembolization?

Cancer cells receive their blood supply from the hepatic artery, whereas normal liver cells receive their blood supply from the portal vein and hepatic artery.

The term 'embolize' means the blood and oxygen supply to the tumour is blocked. The chemotherapy is mixed with lipiodol (poppy seed oil) and is injected into the tumour via the hepatic artery. This mixture of chemotherapy along with lack of blood and oxygen to the tumour helps destroy cancer cells.

How is the chemoembolization done?

The Radiologist will insert a flexible tube (catheter) into the large artery in the groin, usually the right side. This catheter is slowly moved into the hepatic artery and the arteries to the tumour(s). This can take 30 to 60 minutes. Just like many people get angiograms of the heart, the interventional radiologist does an angiogram of the liver through the catheter. When the catheter is in the correct position, the Radiologist injects the chemotherapy mixture. After the injection, the catheter is removed and pressure is applied to the puncture site in the groin to prevent bleeding.



If you are on Sandostation LAR

TWO WEEKS BEFORE THE PROCEDURE YOU WILL RECEIVE SANDOSTATIN LAR 60mg. This is in addition to your regularly scheduled injection. This injection is required to prevent carcinoid syndrome during the embolization. A prescription for this once only dose will be faxed to your pharmacy and your visiting nurse. You continue with your regular schedule of Sandostatin LAR.

The day before the procedure

You will have a CT done then you will be admitted to the hospital. Bring all your prescription medication, vitamins, minerals and herbal preparations in their original packaging for the doctor and nurse to review.

You must tell the nurse if you use Sandostatin daily or monthly.

In the evening, an intravenous (IV) will be started and you will be given IV fluid overnight. You may not eat solid food after midnight, but you may drink fluids. Your groins will be shaved by your nurse. If you prefer, you may do this on your own.

The morning of the procedure

You will be given a small dose of octreotide to prevent or minimize carcinoid symptoms during the embolization procedure. A catheter will be inserted into your bladder because during the procedure you must remain very still and will not be able to use a urinal or bedpan.

An antibiotic will be given IV prior to the embolization to prevent infection. Antibiotic tablets will be given to you twice a day for 14 days. You will be sent home with the antibiotics.

A second IV will be started for the pain medicine.

During the embolization

You must lie very still. Wires will be taped to your chest and a blood pressure cuff will be put on your arm. This will monitor your heart activity and blood pressure during the procedure. Some people feel pressure or discomfort in

the upper abdomen in the area of the liver during the injection of the chemotherapy medication. You will be encouraged to use the button on the pain medicine pump.

You may also have a feeling of heat over your body, brief feeling of nausea or experience the hiccoughs while the chemotherapy mixture is injected.

Following the procedure

You will go to the Recovery Room where the puncture site, pulse, blood pressure and general condition will be checked. After 2 hours, you will be transported back to your room. You must remain flat in bed with no leg bending for 5 to 6 hours. If there is no bleeding from the groin area, your catheter will be removed and you will be able to be up and about.

You may have an increase in carcinoid symptoms, especially flushing. You may require extra doses of sandostatin every 8 hours for a few days.

How will I feel after the embolization?

Over the next few days you may notice tenderness in your upper abdomen. It is caused by some swelling in the liver. This is to be expected. We encourage you to ask your nurse for pain medication.

You may have an increase in symptoms, especially flushing. Your Sandostatin dose may be increased for a few days.

You may experience a feeling of fullness/pressure in the abdomen, constipation, low grade fever (below 38 degrees Celsius), sweats or chills. This is not uncommon as cancer cells in the liver start to die. Fatigue and lack of appetite can be problematic for 2 to 3 week after the embolization.

When will I go home?

The usual hospital stay is 3 days. Daily blood tests will show how your liver is working. When the blood tests show a recovery in how the liver is functioning and your condition is stable, you will be discharged home.

Do not forget to get your prescription for your antibiotics!

After discharge

You will be notified by radiology with an appointment for a CT scan and you will see the Interventional Radiologist the same day. The Interventional Radiologist will inform you of the response to treatment and advise you of the next step in your care.

NOTE:

- If you have a sudden increase in abdominal pain or a fever over 38 degrees Celsius you must go to the closest Emergency Department.
- Take this information pamphlet with you.
- You will require an **urgent multiphasic CT of the liver**.
- The Emergency Physician may contact the on call Medical Oncologist for the London Regional Cancer Program and have the physician paged after hours and on weekends by calling 1-519-685-8500.
- The Emergency Physician can page Dr. Kocha Tuesday to by calling 1-519-685-8500.