SIR-Spheres
Microsphere Treatment
Information for patients
What are SIR-Spheres Microspheres?

SIR-Spheres Microspheres are a method of treating malignant liver tumours, whether those tumours originate from the liver itself, or have spread to the liver from elsewhere in the body (e.g. colon or rectal cancer). This treatment is also called “Selective Internal Radiotherapy” (SIRT) or “Radio-embolisation” (RE).

Millions of little resin “beads” are injected into the artery that supplies the liver. The beads are tiny and can only be seen under a microscope. Each bead is smaller than the width of a human hair.

The resin of each bead contains a radioactive isotope which emits radiation that travels only a very short distance within the liver. Once injected into the liver, the beads emit radiation, which treats the tumour cells near the beads. The beads also help to cut off the blood supply to the tumours, thus starving them of oxygen. The radiation lasts for a period of days, and the treatment effect on the tumour can last much longer.
Who can have SIR-Spheres Microspheres?

This treatment is only suitable for patients who have malignant liver tumours and whose scans have been reviewed at a meeting of cancer specialists, called a Multi-Disciplinary Team Meeting. This is held at the Oxford University Hospitals.

To assess your suitability for the microspheres treatment, the following investigations will be performed:

**Liver Angiogram**
- A catheter is inserted into your groin and contrast is injected into the blood vessels that supply your liver.
- Even if you have a similar procedure before, you will need another one. This angiogram specifically assesses the blood flow and maps the blood vessels within your liver.
- During this procedure, the radiology consultant doing the angiogram will block off ("embolise") any vessels that he/she thinks might represent a risk of microspheres going elsewhere in the body. There is no risk associated with blocking off these tiny vessels, but it can sometimes cause mild pain for a few hours after the procedure, so you will be monitored in the hospital for at least 4 hours before you can go home.
- On the same day, this procedure will include a Nuclear Medicine scan of your liver to calculate the correct microspheres dose for you.

**CT Scan**
- You will need two CT scans, the first one a few weeks before the treatment and another one approximately 3 months after the procedure.
- CT scans you have had recently may be sufficient for measuring the liver tumour.

Based on the results of these 2 tests, it will be decided whether you can have the Microsphere treatment and the dose will be ordered from abroad so that it is ready for the day of your treatment.
Injection of the Microspheres

- Approximately one week after the liver angiogram, you will have a very similar procedure, during which the Microspheres will be injected into the liver via a catheter.

- You will be monitored in the hospital for at least 4 hours after the procedure and you may be asked to stay in hospital overnight for observation in case you need strong painkillers.

After the treatment

- After the first liver angiogram and after the procedure, you may be admitted for 1 night on each occasion.

- It is important to drink plenty of fluids for 6-8 weeks after this procedure.

- The range of the radiation given off inside the body is only 1-2 centimetres. Very little of the radiation will leave your body, but as a safety measure you will be given a yellow card telling you some precautions you must take when you leave hospital.

- You may have visitors but they should be over 18 and no one who is pregnant may visit.

Side effects

As with many treatments, you may experience side effects from the procedure, but not all patients will get them.

The most common side effects are:

- Fatigue – this is the commonest side effect. It is usually mild, but it can last for 4-6 weeks.

- Mild fever – can last from a few days to a week and usually does not cause concern.

- Abdominal pain for a few hours after the procedure and sometimes several days. This will be controlled with painkiller tablets.

- Nausea, usually mild and easily controlled with tablets.
• Diarrhoea, usually mild and not requiring treatment.

If you do experience any side effects, they will be treated with medications during your stay and you will be given tablets to take at home

**Side Effects (less than 1 in 10 patients treated)**

• If a few microspheres reach the stomach or intestine, they may cause symptoms of indigestion, gastritis or abdominal discomfort similar to having a peptic ulcer. To prevent this from happening, you will be asked to take an anti-ulcer treatment once daily from the day you have the liver angiogram for a minimum of 8 weeks.

**Rare Side Effects (less than 1 in 100 patients treated)**

• Lung – if a few of the microspheres reach the lungs, you may experience some shortness of breath and a cough for 2-3 months after the treatment. This is very rare, but if it occurs, it may be treated with steroids tablets.

• Liver – radiation treatment to the liver may cause abnormalities in blood tests of liver function. This may appear weeks after the treatment. You will have regular blood tests to monitor your liver function. Should this occur, you may be treated with steroids or you may just be monitored until it subsides. This rare side effect can be fatal in a small number of cases.

• Cholecystitis – inflammation of the gallbladder can result from the radiation, although this is very unusual. Normally this will resolve without treatment, but if it persists, it is possible to remove the gall bladder in an operation 2-3 months after the microsphere treatment.

The potential long-term risk from these radiation doses is uncertain. However, as long as the radiation is confined to your liver, the side effects are usually mild. Any exposure to radiation has the potential for long-term damage such as scarring of the liver or a small risk of other malignancies developing many years later, but this risk is small and cannot be measured.
The hospital team responsible for this treatment consists of:

Dr Ricky Sharma, Consultant in Clinical Oncology
Dr Andrew Weaver, Consultant in Clinical Oncology
Dr Phil Boardman, Consultant in Radiology
Dr Suzie Anthony, Consultant in Radiology
Prof Fergus Gleeson, Consultant in Radiology
Mrs Jane Statham, Superintendent Radiographer
Dr A Hallam, Medical Physicist
Questions or further Information

Nice Guidance states that SIRT can prolong time to progression of hepatic metastasis patients previously treated with chemotherapy. For patients who have not previously received chemotherapy, the effectiveness of the treatment has not been proven.

For medical queries about this treatment, please contact Dr Sharma (office hours) or the on-call oncology registrar (out-of-hours) via the John Radcliffe switchboard: Tel: 01865 741841

You may also contact Mrs Jane Statham if you have further questions or need advice:
Telephone: 01865 235804
e-mail: jane.statham@ouh.nhs.uk

Further information can be found on the following websites:

www.sirtex.com

http://guidance.nice.org.uk/IPG401


www.macmillan.org.uk/cancer-information/cancer-treatment
If you need an interpreter or need a document in another language, large print, Braille or audio version, please call 01865 221473 or email PALSJR@ouh.nhs.uk