

# Y-90 Microspheres Treatment

At Ochsner Medical Center – Kenner

## **What Is Microspheres Treatment?**

SIR-Spheres® microspheres are tiny resin spheres that are loaded with yttrium-90, a radioisotope that emits pure beta radiation. The radiation from yttrium-90 is largely confined to a tissue depth of 2 - 3 mm. After injection into the artery supplying blood to the tumors, the spheres are trapped in the tumor's vascular bed, where they destroy the tumor cells. The radiation is targeted and contained within the patient's body and after 14 days the majority of the radiation effect has occurred. Microspheres are considered a liver directed therapy. Radiation is directed to the liver containing tumors and does not affect other organs in the body.

## **Insurance Coverage**

Most insurance companies generally cover the cost of SIR-Spheres® microsphere therapy. Under the terms of the 2004 Medicare Prescription Drug Improvement and Modernization Act, Medicare reimburses hospitals for the full cost of outpatient treatment with SIR-Spheres microspheres.

## **Indications:**

Microspheres are indicated for the treatment of primary and secondary liver cancer where curative resection is not possible.

## **Contraindications:**

- Previous external beam radiation therapy to the liver
- Ascites or clinical liver failure
- Markedly abnormal liver function tests
- Tumors amenable to surgical resection for cure
- Greater than 20% lung shunting (determined by the nuclear medicine break-through scan)
- Pre-assessment angiogram and MAA nuclear scan demonstrates significant reflux of hepatic arterial blood to the stomach, pancreas or bowel
- Disseminated or widespread extra-hepatic disease

## **Treatment:**

As an outpatient, lab tests are performed to assess liver function. CT or MRI is performed to identify size and location of tumors. A hepatic arteriogram is performed to determine liver vasculature for infusion of microspheres and coils are placed to prevent reflux of microspheres into the stomach or intestine. Lung shunting/perfusion study is performed in nuclear medicine to assess the level of blood shunting from the liver to the

lungs. Once the screening tests are completed and you are deemed suitable to receive this treatment, the patient specific dose is ordered. The spheres can be delivered and the treatment can take place the following day.

On the treatment date, as an outpatient, you will be taken to the Radiology Department for treatment by Dr. Ryan Majoria. The microspheres will be delivered by way of angiogram. The procedure is expected to take approximately 1-2 hours.

**Side Effects:**

Many patients may develop a low-grade fever after implantation of SIR-Spheres® that can last from a few days to a week. The fever usually occurs at night and does not indicate infection. It is usually related to the embolic effect of the microspheres and the acute toxic effects on the tumor.

Many patients may experience significant abdominal pain immediately after administration of SIR-Spheres® and may need pain relief with narcotics. The pain generally subsides within an hour or so, but some patients may require pain medicine for up to several days.

Some patients will experience nausea that may last up to several weeks and this may occasionally be severe enough to require anti-emetic medication.

Other side effects or complications that are rare include ulcers, radiation hepatitis, pneumonitis, and severe abdominal pain.

**Patient Precautions:**

While there are no legal restrictions on your activities, we recommend that you observe the following radiation safety restrictions for **the first 3 days following your treatment:**

- Maintain an appropriate distance, approximately arms length, from others except for brief periods of time. This precaution is most important when you are around children and/or pregnant women.
- If you are incontinent, wear latex or rubber gloves when handling items that have come into contact with urine. You should wash undergarments, linens, and any other items separately from other non-contaminated items. Disposable undergarments (i.e., “Depends”) may be placed in your regular trash.
- If you have to see a physician or go to the ER within 3 days following your treatment, notify them of your Y-90 treatment and that there is a small amount of radioactive material in your liver. This should NOT delay your treatment.

After the first three days following your treatment you may resume your normal activities with no radiation precautions.

**If you have any questions or problems, contact your medical team at 504-464-8500.**