

PRESS RELEASE

INTERNAL "TARGET" RADIOTHERAPY

Milan, 5th June 2006- The European Institute of Oncology is the first oncological centre in Italy that started the experimentation of a new kind of "target therapy", which takes radiotherapy directly and selectively on the neoplasia, without passing through other organs or tissues. That is the origin of the name SIRT, Selective Internal Radiotherapy. Microspheres loaded with radioactivity are focused on the ill cell, through the arterial circulation. Born in Australian laboratories and already experimented on more than 300 cases at the North Carolina University (USA), this methodology is particularly indicated for liver cancers. With the Nuclear Medicine technologies, the microspheres (not larger than 1/3 of a hair) are loaded with a light dose of radioactivity and are injected, through a small catheter, normally used in Intervention Radiology, directly in the blood via the hepatic artery which, with its branches, supplies the liver and, especially, the cancer cells in it. When the microspheres reach the ill hepatic tissue, they release their radioactive charge, which destroys the cancer cells, performing a particularly precise and aimed radiotherapy. "SIRT – comments Franco Orsi, Director of Intervention Radiology – is one of those very innovative methods in Nuclear Medicine which allow us to treat those patients who, because of the complexity or seriousness of their pathologies, cannot be cured with more invasive traditional therapies, like surgery or radiotherapy. This is the case of many people affected by hepatic cancers, difficult to irradiate with external radiotherapy because of the extension of the neoplasia or of the particular position in the ill tissue. Internal radiotherapy is, therefore, an alternative and innovative therapeutic technique, with minimum side-effects, for the treatment of hepatic cancers as single therapy in case of refractoriness to chemotherapy or in association with it. This technique doesn't provide for surgery: at first, the patient is prepared for the treatment, the physicians study the circulatory situation of his/her liver to ensure that the microspheres are placed in the correct way. Then, a percutaneous "injection" is performed on the patient's left shoulder to place the catheter and to inject the radioactive microspheres. A day after the admission, the patient can go back to his/her normal life.

Today at IEO we treat patients with hepatic metastases with this technique, as it is probably the most favourable treatment option for these people, as it is particularly little invasive and has very few side-effects. We have already treated the first patients (in progression to standard therapies) with encouraging results. SIRT has an important meaning in the approach to the oncological patient, as it helps discredit the spectre of hepatic metastasis as a death sentence. Nowadays we are able to rehabilitate a growing number of patients with metastases, offering them the quality of life of a chronically ill person, able to work, travel and participate to social life".

The requisite to extend the use of SIRT is the interdisciplinary work among Nuclear Medicine, Radiotherapy, Intervention Radiology and Healthcare Physics, together with a strong interest in technological research.

"We can exploit nuclear energy to diagnose and treat cancers - concludes Giovanni Paganelli, Director of Nuclear Medicine – The focused use of radioactive substances can attack the illness where neither a lancet nor external radiotherapy can reach. Metastases are an example. All metastases are radiosensible. The problem consists in taking the radiations to the neoplasia without destroying the affected organ or those nearby. This is the origin of the idea of internal radiotherapy with radio-drugs which, following the principle of intelligent missiles, aim at their target exclusively".