

PRESS RELEASE

TISSUE TRANSPLANTATION TO CURE LUNG CANCER

Milan, 23rd May 2006 – A new technique has been devised at the European Institute of Oncology to operate advanced-stage lung cancer, which allows to rehabilitate those patients who have always been considered incurable.

"When the lung cancer extends to the superior vena cava (the one that takes the peripheral blood to the heart, passing over the right lung) surgery becomes particularly complex, as the surgeon has to remove a vein tract and rebuild it, using a prosthesis, which can create serious infective problems or the closure of the vein (thrombosis) – explains Professor Lorenzo Spaggiari, Director of the Division of Thoracic Surgery and Professor at the University of Milan – As a result, only very few centres accept to treat the patients affected by a pathology showing these characteristics, who have no other treatment options. IEO is one of the reference institutes for these interventions, and has been doing researches for years on this kind of very advanced surgery, in order to make it safer, more effective and, therefore, more reproducible and available to other patients."

"Three years ago, we thought that the solution could be found in the type of rebuilding. As there is no (autologous) human tissue large enough and biologically fit to replace the vena cava, we thought to use animal tissue, that modern technology can make compatible with our organism. It is resistant against infections, which are very frequent after lung surgeries, and avoids the risk of thrombosis, which is related to synthetic prostheses. It is a real transplantation of heterologous tissue. We waited for three years before advertising this new intervention, because in oncology the result is not the success of a new technique, but the final outcome on the patients and their quality of life. Now, three years later, we can consider cured the first patient. A patient who was given only six months of life".

In these years we performed other 7 interventions, and the IEO équipe is waiting for the follow-up results. In the meanwhile, the technique is being continuously revised, and is becoming renowned all over the world, as proved by the recent publication on the *Journal of Thoracic and Cardiovascular Surgery*, official body of the American Association of Thoracic Surgery. New more anatomical and biocompatible prostheses are under development; besides, we are also studying the effects of pre-surgery chemotherapy to reduce the dimensions of the neoplasm, in order to be able to allow more and more patients to take advantage of this technique.

"Molecular and gene research is the warranty for tomorrow's cure – commented Umberto Veronesi, scientific manager, – but here at IEO our continuous commitment is also addressed at researching new technologies and pioneering surgical methods for that ill people who live with and advanced-stage illness, who we weren't able to reach with early diagnosis. For solid cancers, like lung cancers, there may be technical issues, like critical site positions, near vital organs. In this case, the limit of this cure is surgical not oncological. We know that is the surgeon can overcome this limit, the cancer can be cured. So we must do it, to rehabilitate as many patients as possible. The principle is an extension of surgery out of its usual boundaries to offer a cure, even when no other solutions seem possible".