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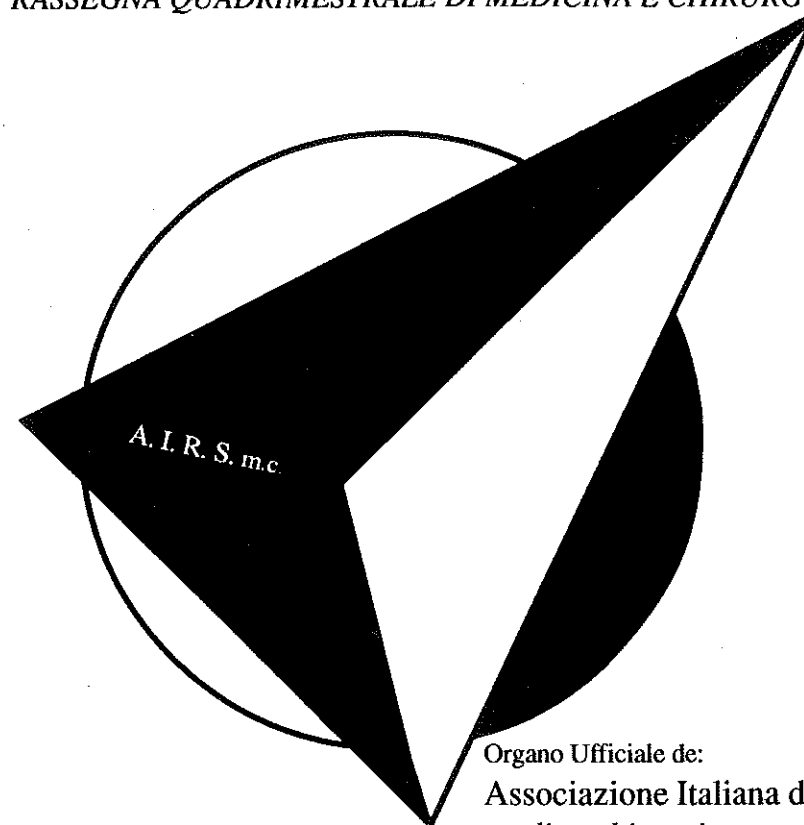
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## R.I.G.S. (RADIO IMMUNO GUIDED SURGERY): NEW SURGICAL TREATMENT IN THE EARLY AND HIDDEN BREAST CANCER

The raising incidence of the breast cancer and its high death rate, request a diagnostic program and a disease check as precise as possible.

Up to now remarkable advantages has raised from the intensification of common efforts in the field of early diagnosis and the method, wich aim to determine the correct stadiation of the cancer before surgical procedure, are now standard (mammography, F.N.A.B., F.N.A.B. under ecographic check).

Unlikely, despite the high precision of those diagnostical tecniques, the bringing out metastasis of an hidden cancer (x rays deaf) does not occur even if not very often for one

0,5 to 7% of the patients.

Particularly the most up diaphragmatic place concerned, is the lung, while for the down diaphragmatic is pancreas.

The axillary region are concerned by the hidden cancer in 0,3-0,5% of the cases, while the skeleton is concerned for the 33% of cases, showing, as underlined by Nystrom, that often the methastatic diffusion of the hidden cancer does not follow the same patterns as the cancers clinically evident.

In those conditions it is necessary to try to define with accuracy the location and the extention of the primitive cancer on the one hand to avoid complications (quick methastasis) on the other to carry out an immediate and radical therapy in order to obtain an augmentation of the time of survival.

For this purpose, those fase years, in many..... renters, researchers are testing the efficacy of monoclonal antibodies (Mabs) that, armed with radionuclated particles or with

chemiotherapeutic agents, binding with specific tumoral glicoproteins could manage to concentrate them selves in the sub-clinic neoplastic focus.

Because of this affinity, it becomes possible to diagnose precociously the primary places of the tumor, the metastasis that does not come out with normal methods and kill with a direct method or with a "chain reaction" only the neoplastic cells.

Together with the Mabs (anti MCA, anti Ca 15-3, and Mab ER-D5) direct agaist the antigenes associated with the cancer of the breast with a specificity of 85%, there is the recent discovery of a Mab of rat origin called B.72.3.

This Mab, utilized as a reliever could be used successfully for the development of a new surgical approach: the radioimmuno guided one, that could give a real stadiation either pre surgical or intra surgical, and could allow us to obtain exact informations about the extention of the neoplastic focus and to effectuate a most radical surgical exeresis.

In fact, this Mab armed with radionuclid-I-125, could have an high affinity with the surface tumoral antigene TAG 72 present in the cellular membrane of many human mucosecreting epithelii.

In a particular way the affinity could be with the membranes of adenocarcinomas of the breast (85-90% of specificity), of the colon (80-90%), of the lung (85%), of the ovary and pancreas (75-85%).

The specific link with neoplastic cells, globally displayed with radiodiagnostical tecniques after two weeks from the intravenous administration of Mab I-125, could be releaved

### References

1) *Badellino F., Bertoglio S., Percivale P.:* La chirurgia radio-immuno-guidata mediante anticorpi monoclonali nella diagnosi e nella

during the surgical intervention thanks to a detector probe (Neoprobe system 1000) that would translate into an acoustic signal the gamma radiations coming from the accumulation of the complex Mab I-125 in the concerned neoplastic tissue only.

This would allow us to know the exact extention of the neoplastic focus, permitting us to perform with an high degree of security a preservative surgical intervention or to enlarge the margins of the resection in case of need.

This specific system of revelation could be the fundamental base for the development of this new surgical technique (R.I.G.S.) that could be more reliable for the high capacity of the definition of the extention of the cancer and for the possibility to identify clinically those methastasis that area radiologically hidden. Alone, or associated with other techniques (radio - immuno - chemo -thermo -therapies), personalized on the isthochemical features of any single tumor, could become the elected method in the execution of a true radical treatment, with an important reuction of local relapse and metastatic repetitions.

The employment of this technique is strongly limited on the one hand because of the impossibility to create human Mabs in laboratories and on the other hand because the production of Mabs is very expensive.

We do hope in a stronger cooperation between highly specialized centers for the identification, with more and more selective methodologies, either of new prognostic factors concerning the breast carcinoma or in more radical strategies in order to kill this social disease.

stadiazione intra-operatoria dei tumori coloretali. Arch. Soc. Ital. Chir. 91° Congresso - Genova - VII: 2, 1989.

2) *Colcher D., Zalutsky M., Kaplan W.:*

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Radiolocalization of human mammary tumours in athimic mice by a monoclonal antibody. *Cancer Res.* 43: 736, 1983.

- 3) **Fiorito R., Pigliucci G.M., Venditti D., Giudiceandrea F., Iorio B., Fiore A., Cervelli V., Vittorini V., Casciani C.U.:** Recent diagnostic and terapeutical approach about on early breast cancer using monoclonal antibodies and flow cytometric analyses. Second World Weck of Professional Updating in Surgery and in Surgical and Oncological Disciplines of the University of Milan. Milan, 1990; 2-27.
- 4) **Fiorito R., Venditti D., Iorio B., Pigliucci G.M., Casciani C.U.:** Early diagnosis of breast cancer using monoclonal antibodies and flow

cytometric analysis. A new diagnostic protocol. by Abstract Book: Collegium Internationale Chirurgiae Digestivae. XIth World Congress. New Delhi, Nov 3-7, 1990. N. 762.

- 5) **Martin E.W. jr., Moszisk C., Hinkle G.H.:** Radioimmuno guided surgery using monoclonal antibodies. *Am. J. Surg.* 156: 386-392, 1988.
- 6) **O'Dxyer T.J., Moszisk C., Hinkle G.H.:** Intraoperative probe directed immunodetection using a monoclonal antibody. *Arch. Surg.* 121: 1391-4, 1986.
- 7) **Sickle - Santarello B., O'Dwyer P.J., Moszisk C.:** Radioimmunoguided surgery using the monoclonal antibody B 72.3 in colorectal tumors. *Dis. Col. Rect.* 30: 761-5, 1987.