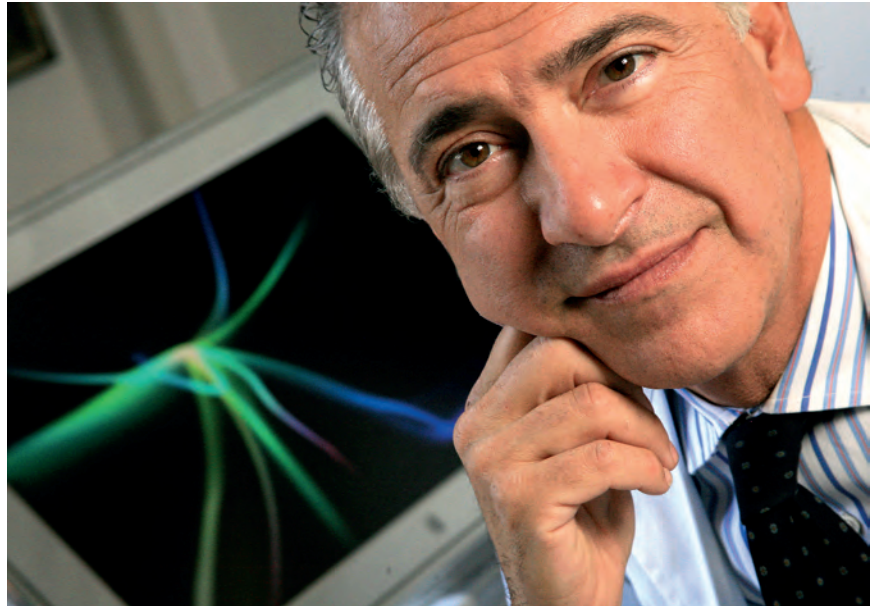


SURGERY DEPARTMENT



DIRECTOR OF DEPARTMENT

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UNITS

GASTROINTESTINAL, HEPATOPANCREATOBILIARY SURGERY AND LIVER TRANSPLANTATION
Vincenzo Mazzaferro

COLORECTAL SURGERY
Ermanno Leo

BREAST SURGERY
Roberto Agresti

MELANOMA AND SARCOMA
Mario Santinami

DIAGNOSTIC ENDOSCOPY AND ENDOSCOPIC SURGERY
Emanuele Meroni

MAXILLO-FACIAL SURGERY
Giulio Cantù
and Gabriele Scaramellini (*from September 14th*)

GYNECOLOGIC ONCOLOGY
Francesco Raspagliesi

THORACIC SURGERY
Ugo Pastorino

PLASTIC AND RECONSTRUCTIVE SURGERY
Maurizio B. Nava

OTOLARYNGOLOGY SURGERY
Gabriele Scaramellini

UROLOGIC SURGERY
Roberto Salvioni

PEDIATRIC SURGERY
Luigi Piva

LASER THERAPY
Anna Colombetti

The Department consists of 11 surgical divisions and 2 Units under the responsibility of the Director of the Department (Pediatric Surgery and Laser Therapy); there are 240 inpatient beds and 14 outpatient beds.

Routine clinical activity ensures a high standard of care for all surgically-treated patients, providing conservative surgery (organ/function preserving or minimally invasive) for early stage disease and combined treatment modalities for advanced disease.

Furthermore, all surgeons of the Department continue in their specific research activity in order to achieve an outstanding quality of results.

Through frequent meetings the Department optimizes its resources and plans clinical activities in collaboration with the Medical Office.

GASTROINTESTINAL, HEPATOPANCREATOBILIARY SURGERY AND LIVER TRANSPLANTATION

HEAD

Vincenzo Mazzaferro, MD

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HEALTHCARE ASSISTANTS

Rossella De Felice, Nicoletta Damiani, Annamaria Pancari, Enza Spina, Anna Vecchio

The activity of this Unit is focused on improving the standard of care and clinical research on primary and secondary tumors of the upper gastrointestinal tract affecting the liver, biliary system, stomach, pancreas, and small bowel. This is a comprehensive surgical and medical facility dedicated to all forms of upper gastrointestinal cancer. A Liver Transplant program mainly focused on oncological indications is incorporated in the Unit. In clinical activities, trials and technical procedures are applied far beyond conventional indications as daily practice involves a multidisciplinary approach. In the setting of hepato-oncology, laparoscopic surgery, resection, and transplantation are part of integrated therapeutic programs including radiofrequency ablation, trans-arterial chemoembolization, radioembolization, and use of molecular targeted therapies. More than 60% of patients are offered therapies within prospective clinical trials. In addition, new clinical technologies are routinely used in the management of patients, and recent updated devices are offered to patients admitted to the Unit. These include: a) Myrian: a program to calculate liver volume for the evaluation of the remnant liver (and liver to be removed) in case of large resections; b) Limon: a monitoring system for non-invasive measurement of the global liver function based on the elimination of the diagnostic drug ICG pulsion injected intravenously and eliminated exclusively by the liver; c) bipolar sealing devices: designed to seal blood vessels and reduce blood loss and transfusion; d) latest generation of ultrasound technologies with or without contrast agents is employed on a routine basis for targeting liver lesion in association with; e) ablation devices: using either radiofrequency or microwaves. Patient care and support are the highest standard for the over 800 admissions and 400 major surgical procedures/year, among which treatment of colorectal and liver metastases represent the majority.

The Unit has the highest complexity within the INT and is part of the International Consortium on Liver Cancer, within a translational research program that received the AARC Innovation Award 2009 (with Barcelona Clinic and Mt. Sinai University in New York). Clinical research programs are part of FP7 Project and transplantation trials on extended criteria are led by this Unit. Interventional experimental devices, decision-making analysis, and criteria that focus on patient benefit are part of novel programs on pancreatic and biliary tract cancers. Research projects that focus on positive prognostic markers through biobank implementation are ongoing for gastric and esophageal-gastric junction cancers as well as for GEP-NET. Teaching-training activities attract a large number of specialists to this Unit every year.

Keywords: liver cancer, pancreatic cancer, liver metastases, liver transplantation, neuroendocrine tumors (gastrointestinal tract)

2010 RELEVANT NOTES

Collaborations

Barcelona Clinic Liver Cancer Group, Barcelona, Spain
Liver Unit of the Mt. Sinai School of Medicine, New York USA
Harvard Broad and Dana-Farber Institute, Boston, USA
University of Geneva, Switzerland
University of Milan, Gastroenterology and Surgery
Nord-Italia Transplant (NITp), Milan

Publications

Personalized molecular targeted therapy in advanced, recurrent hepatocellular carcinoma after liver transplantation: a proof of principle. *J Hepatol.* 2010; 52:771-5.

Partial hepatectomy versus radiofrequency ablation for hepatocellular carcinoma: confirming the trial that will never be, and some comments on the indications for liver resection. *Hepatology (Editorial).* 2010;51:1116-8.

IGF activation in a molecular subclass of HCC and pre-clinical efficacy of IGF-1R blockage. *J Hepatol.* 2010;52:550-9.

Contributions

V. Mazzaferro: Good Clinical Practice Guidelines – Ashford and St. Peter's Hospitals NHS Trust Certificate



V. Mazzaferro: "Organization and management of primary care" Course Doctorate at SDA Bocconi Economic University, Milan

V. Mazzaferro: Associate Editor of *Journal of Hepatology* and part of the Editorial Board of *Lancet Oncology*, *Liver Transplantation*

V. Mazzaferro: Expert for EASL (European Association for the Study of the Liver): EASL-EORTC Clinical Guidelines of Hepatocellular Carcinoma 2011

COLORECTAL SURGERY

HEAD

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Nagore N. Lecuona, Vittorio Mauro,

Maria F. Palma, Raffaella Rossi,

Giovanni Santalucia, Riccardo Vacca

TECHNICIANS

Nunzia Di Perna, Santina Domingo,

Fabio Lizzano, Maria Petrosino

At present, the Unit has 28 beds and its activity is devoted to the study, treatment, and clinical research of colorectal cancer.

The objective of the Colorectal Unit, in Italy and abroad, is to realize and promote surgical studies, in particular colorectal oncology, whose target is the treatment of tumor while respecting the life quality. To fulfill this aim, many novel approaches are used, which include the promotion and organization of courses for surgical teaching, meetings, conferences, workshops, seminars, and debates. The Unit is affiliated with the General Surgery Residency Programs of the Universities of Milan Bicocca and Pavia.

Clinical activity involves diagnosis and treatment of colorectal cancer with specific interest in the use and development of sphincter saving procedures for tumors located in the lower rectum. Overall, a median of 400-500 major operations are performed yearly. Preclinical research is conducted in collaboration with the Units of Pathology and Immunotherapy of Human Tumors.

The main area of research in 2010 was:

evaluation of rational surgical strategies for the treatment of pelvic relapses in rectal cancer patients. In collaboration of the Department of Medical Oncology, we have continued a program aimed at defining a rational surgical and medical approach in these cases. We are also performing clinical studies of active immunotherapy in rectal cancer patients, and in particular, on the possible role of the native fluorescence of blood plasma in the management of colorectal cancer and its feasibility as a new tumor marker.

The role of tissue resonance interaction method (TRIMprobe) electromagnetic detector (Galileo Avionica, Turin), which consists of a nonlinear oscillator as rectal cancer screening, is also being assessed.

Keywords: rectal cancer, conservative sphincter surgery, colorectal screening

2010 RELEVANT NOTES

Collaborations

ENETS GEP-NET Center

Publications

Diagnosis of rectal cancer by Tissue Resonance Interaction Method. *BMC Gastroenterol.* 2010;10:45-50.

Colorectal cancer detection by means of optical fluoroscopy. A study on 494 subjects. *Front Biosci (Elite Ed).* 2010;2:694-700.

Contributions

Alberto Vannelli, Commission on the regional guidelines in Lombardy: study group for modification of current hospital tariffs in oncology



BREAST SURGERY

HEAD

Roberto Agresti, MD

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Domenico Piomalli, MD

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Francesco Antonio Spagnolo, Liliane

Venafra

HEALTHCARE ASSISTENTS

Maria Caterina Fadda, Luigi Magnifico,

Caterina Pianu

The clinical activity of the Unit includes all the aspects of breast cancer treatment: diagnosis, primary and adjuvant therapy, and follow up. Treatment is performed by multidisciplinary teams involving several other Units and Departments.

A randomized clinical trial aiming at the development of integrated therapeutic strategies to reduce surgical morbidity in the treatment of T1N0 breast cancer has been continued.

Another randomized clinical trial compared axillary dissection to observation in patients aged >65 years with T1N0 breast cancer. Follow-up is ongoing to assess long-term results. A prospective non-randomized trial comparing axillary clearance with observation in elderly breast cancer patients without axillary palpable nodes was recently published. Moreover, in the same case series we are investigating whether biological markers may predict axillary relapse and breast cancer mortality. A pilot study is in progress, that compares FDG-PET with sentinel lymph node biopsy for staging of regional lymph nodes, followed a previous experience in the use of PET in preoperative evaluation of axillary lymph nodes. Enhanced understanding of the pathogenesis of breast cancer coupled with growing interest in improved esthetic results led to investigate skin-sparing and nipple-sparing mastectomy as a potential modification to conventional mastectomy. In the last two years, we performed over 200 NAC sparing mastectomies. In a joint study with the MRI unit, we are evaluating the ability of MRI to show the extent and location of the tumor in a breast surgical specimen by "ex vivo" MRI. In cooperation with the Medical Genetics Unit, an approach tailored for women at high genetic risk has been developed. During genetic counselling, a genetic risk estimation is performed to allow a personalized program including available preventive options and treatments. Furthermore, patient risk stratification allows classification of patients and definition of different classes of clinical and instrumental surveillance.

Keywords: breast cancer, surgical treatment, axillary management



2010 RELEVANT NOTES

Publications

Axillary dissection versus no axillary dissection in elderly patients with breast cancer and no palpable axillary nodes: results after 15 years of follow up. *Ann. Surg. Oncol.* 2011;18:125-33.

Recurrence and mortality according to estrogen receptor status for breast cancer patients undergoing conservative surgery. Ipsilateral breast tumour recurrence dynamics provides clues for tumour biology within the residual breast. *BMC Cancer.* 2010;10:656-64.

MELANOMA AND SARCOMA

HEAD

Mario Santinami, MD

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 Andrea Maurichi, MD
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 Roberto Patuzzo, MD
 Roberta Ruggeri, MD

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 Crespo, Nello Curatolo, Floarea Dorca,
 Giovanna Lomartire (Head Nurse),
 Loridana Marino, Silvana Mirante, Erika
 Panigada, Giuseppina Pede, Consolata
 Romeo, Claudia Maria Sonzogni, Monica
 Ullio, Elisabetta Velluti, Addolarata Volpe

During 2010, more than 550 *melanoma patients* underwent major surgery. More than 15,000 patients were seen in the outpatient clinic, and 1,000 were subjected to minor surgery; a Unit database, containing more than 3,000 patients over the last 10 years, has been managed. Our Unit is a referral center for *soft tissue sarcomas* of the extremities and trunk, as well as retroperitoneal sarcomas, GIST, and axial bone sarcomas. We carried out 316 major operations for new patients and 27 operations for patients presenting with a loco-regional recurrence. We saw 770 new patients in consultation and performed routine follow-up visit for over 3,000 cases. We also chaired the surgical section of the Italian Network on Rare Tumors, performing a weekly second opinion through the network.

We run an institutional database containing over 6,000 patients affected by sarcoma treated in the last 30 years. Part of this institutional database has been linked to CONTICABASE, a virtual data base connected with tissue banks shared among the partners of CONTICANET, a European network on rare cancers.

We also treated 25 patients for *peritoneal neoplasms*.

Keywords: *melanoma, sarcoma, peritoneal cancer*

2010 RELEVANT NOTES

Collaborations

Tor Vergata University, Rome
 Istituto Clinico Humanitas, IRCCS and European Institute of Oncology, IRCCS, Milan
 Manerbio Hospital, Brescia
 Institute of Oncology, Ljubljana
 Universitatea de Medicina si Farmacie (UMF), Targu Mures, Romania

Publications

Phase III trial comparing adjuvant treatment with pegylated interferon Alfa-2b versus observation: prognostic significance of autoantibodies - EORTC 18991. *J Clin Oncol.* 2010;28:2460-6.

Pure desmoplastic melanoma: a melanoma with distinctive clinical behavior. *Ann Surg.* 2010;252:1052-7.

Aggressive surgery in retroperitoneal soft tissue sarcoma carried out at high-volume centers is safe and is associated with improved local control. *Ann Surg Oncol.* 2010; 17:1507-14.

Extremity soft tissue sarcoma in a series of patients treated at a single institution: local control directly impacts survival. *Ann Surg.* 2010;251:506-11.

A novel tumor-node-metastasis (TNM) staging system of diffuse malignant peritoneal mesothelioma using outcome analysis of a multi-institutional database. *Cancer.* Epub 2010 Nov 18.

Receptor tyrosine kinase and downstream signaling analysis in diffuse malignant peritoneal mesothelioma. *Eur J Cancer.* 2010;46:2837-48.

Contributions

Mario Santinami, Deputy President of SICO (Società Italiana Chirurgia Oncologica)

Mario Santinami, Editorial board and reviewer: *Dermatology Research and Practice; European Journal Surgical Oncology; Journal Investigative Dermatology; World Journal Surgical Oncology; Tumori*

Alessandro Gronchi Associate Editor of *Sarcoma Journal*

Alessandro Gronchi, Editor for Sarcoma Section in *Annals of Surgical Oncology*

Participation in the following groups:

Sarcoma Task Force, European Society for Medical Oncology (ESMO)

Scientific Directorate, Connective Tissue Oncology Society (CTOS)

International Committee, Society of Surgical Oncology (SSO)

Secretary of EORTC Soft Tissue and Bone Sarcoma Group

Chairman of Italian Sarcoma Group (ISG) Soft Tissue Sarcoma committee

Secretary of SITILo (Italian Society for Locoregional Therapies in Oncology)

Member of Business Committee of PSOGI (Peritoneal Surface Oncology Group International)

ROL guidelines on Melanoma

Contribution to drafting the guidelines of bone and soft tissue sarcoma published in *Annals of Oncology*

Participation to the scientific group processing the Scientific Bases for Guidelines Definition on Regional Cancer Therapies (SITILo and Alleanza Contro il Cancro)



DIAGNOSTIC ENDOSCOPY AND ENDOSCOPIC SURGERY

HEAD

Emanuele Meroni, MD

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Roberto Fiocco, Francesca La Monica,
Daniele M. Lo Curcio, Maria Francesca
Mannai, Vittorio Mauro (Head Nurse),
Raffaele Quagliuolo, Giovanni
Sammartino

TECHNICIANS

Silvia Cara, Rosanna Loi,
Salvatore Morfeo

The activities of multidisciplinary endoscopy Unit consist of both diagnostic and therapeutic procedures of the gastrointestinal, biliopancreatic, respiratory, and urinary tracts.

Among conventional diagnostic procedures, special effort is dedicated to the Regional Colorectal Cancer Screening Program. In cooperation with the Hereditary Digestive Tract Tumors Units, patients affected with familial adenomatous polyposis (FAP) or Lynch syndrome are thoroughly studied with top-to-tail examinations including wireless capsule endoscopy for detection of small intestinal lesions. Endoscopic ultrasonography (EUS) is also routinely performed for diagnosis and staging of tumors, equipment for endoscopic radiofrequency ablation (RFA) of Barrett's esophagus is available for treatment of this precancerous lesion when low-grade or high-grade dysplasia are demonstrated.

The special commitment given to innovation in endotherapy has led to treatment of pre-cancerous lesions using mucosectomy, radiofrequency ablation, Argon plasma electrocoagulation, and laser photocoagulation. A fruitful collaboration with the Fondazione IRCCS Istituto Neurologico Carlo Besta is ongoing for treatment of symptoms related to neurological disorders (neurologic dysphagia, Parkinson's disease).

Tracheobronchial, esophageal, duodenal, and colorectal stenting are performed for palliation of advanced cancer.

Keywords: diagnostic endoscopy, therapeutic endoscopy, cancer prevention, early cancer diagnosis, advanced cancer palliation



2010 RELEVANT NOTES

Collaborations

Clinical research in the field of endomicroscopy is ongoing using a prototype of endocytoscope in collaboration with the IRCCS Istituto Nazionale Tumori (IST), Genoa.

Publications

Prevalence of nonpolypoid colorectal neoplasia: an Italian multicenter observational study. *Endoscopy* 2010;42:279-85.

Contributions

Emanuele Meroni is on the review board of *Gastrointestinal Endoscopy* and the editorial board of the *World Journal of Gastrointestinal Endoscopy*; Guidelines for Regional Oncological Network

MAXILLO-FACIAL SURGERY

HEAD

Giulio Cantù, MD

Gabriele Scaramellini, MD (from September 14th)

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TECHNICIANS

Fabrizio D'amico, Rocio De La Cruz, Virginia Marini, Nicolina Paola

In our Unit, state-of-the-art surgical treatment for patients with head and neck tumors is guaranteed by experts from across disciplines: head and neck surgeons, neurosurgeons, plastic surgeon, and dentists. This team of specialists treats patients with tumors of the skull base, paranasal sinus, oral cavity, pharynx, larynx, thyroid gland, salivary glands, melanomas, non-melanoma skin cancers, sarcomas of the soft tissue and bone, and orbital and ocular adnexal malignancies.

Our surgical team works together with medical oncologists and radiation oncologists to optimize functional outcome and provide the highest level of care.

In particular, we have extensive experience in management of skull base and paranasal sinus tumors and in complex reconstruction of surgical defects of head and neck, using free microvascular flaps, having the largest series in Italy for both.

In 2010, we have introduced some innovations:

- the use of customized stereolithographic models in bone reconstruction; this method is used to obtain the most effective cosmetic and functional long-term results
- ozone-therapy followed by conservative surgery for the treatment of BRONJ (clinical study phase I-II 01/01/2007 in progress)
- intraoperative rehabilitation after resection of the maxilla by using a prefabricated dental obturator
- development of techniques for endoscopic sinus surgery.

Flexible fiberoptic endoscopes, flexible fiberoptic endoscopes with working channels for video-assisted biopsy, development of rigid endoscopy, ozone-therapy, stereolithographic models were also used.

During the year, we also carried on the study about the possible role of polymorphisms in xenobiotic metabolizing enzymes as a determinant for the degree of susceptibility to intestinal type adenocarcinomas (FRAC), and we participated in the development of Regional Guidelines for the management of thyroid tumors.

Keywords: head and neck cancer, reconstructive surgery, multidisciplinary approach, skull base, paranasal sinus



2010 RELEVANT NOTES

Collaborations

The Unit actively cooperates with the Neurosurgery Unit of the Fondazione IRCCS Istituto Neurologico C. Besta in Milan and with the Maxillo-Facial Surgery Unit of the S. Anna Hospital in Como.

Publications

Surgery for malignant maxillary tumors involving the middle cranial fossa. Skull Base. 2010;20:55-60.

Intestinal type adenocarcinoma of the ethmoid sinus in wood and leather workers: A retrospective study of 153 cases. Head Neck. 2011;33:535-42.

GYNECOLOGIC ONCOLOGY

HEAD

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 Patrizia A. Valente, Viviana Villa,
 Stefania Labori

TECHNICIANS

Michele Iannelli, Simona Tuiù, Rosa
 Farro, Laura Somma

The Unit deals mainly with primary and secondary tumors of the female genital tract.

The activities of staff members are dedicated to clinical practice, research, and teaching (3 Tumor Boards weekly, International meetings; 3 surgical master courses yearly)

Gynecologic Oncology is mainly focused on: first entry gynecological oncological evaluation; familial cancer; abnormal pap and 1st and 2nd level colposcopy; HPV multidisciplinary office; 1st and 2nd level US; hysteroscopy; follow-up.

All surgical and medical treatments are coordinated on a weekly basis meeting by a multidisciplinary team involving surgeons, medical oncologists, pathologists, and radiotherapists.

The research activity of the group concerns clinical studies from basic science to clinical research. In collaboration with the Experimental Oncology Department and Molecular Medicine, we carried out several studies on gene expression, folate receptor levels, and apoptosis in ovarian carcinoma. Studies on the detection of stem cells in normal ovaries and ovarian cancer to preserve the endocrine potential in ovarian cancer patients by selecting new drugs against these cells are ongoing.

Clinical research aimed to evaluate the efficacy of chemotherapeutic agents in ovarian cancer was also carried out, and active collaboration in international and national multicenter controlled clinical studies in both medical and surgical protocols are ongoing.

To improve the prognosis of early stage cancer, several studies are ongoing on the efficacy and safety of laparoscopic techniques in gynecological oncology. We extended the concept of mini-invasiveness to laparotomy to reduce the complications of radical hysterectomy.

Surgical research includes:

- Nerve-sparing radical surgery
- Debulking surgery
- Laparoscopic surgery in diagnosis, staging and treatment of early gynecological tumors
- Sentinel node detection in endometrial cancer
- Development of fertility-sparing surgery (cervix, ovary)
- Surgery in advanced cases and/or recurrences from all origins
- Photodynamic treatment of recurrent Paget's disease of the vulva
- Vulvar, vaginal and uterine melanoma surgery
- Reconstructive surgery in collaboration with Plastic Surgery Unit

We perform about 1,200 procedures per year in ambulatory surgery. 560 major surgical procedures are currently carried out yearly.



THORACIC SURGERY

HEAD

Ugo Pastorino, MD

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Paolo Scanagatta, MD

Luca D. Tavecchio, MD

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Payà, Yesica Del Rio Mendez, Maria

Della Croce, Margherita Fersurella, Hilda

A. Martinez, Daniele Marino, Maria L.

Quitadamo, Anna M. Panareo, Antonio

Pantano, Antonella Prete,

Antonino Proto

TECHNICIANS

Nekpen Eguavoen, Beatrice Fais,

Antonietta G. Fantilli, Annunziata

Rugolo, Pamela K. Soto Fernandez

The clinical activity of the Unit covers all aspects of thoracic oncologic surgery: surgical management of primary and secondary lung cancer, mediastinal, chest wall, pleural and esophageal tumors, and pulmonary metastases. All cases are discussed during multidisciplinary meetings on a weekly basis. Minimally invasive approaches are used to limit the functional consequences of surgery and muscle-sparing approaches are utilized in all cases.

In the management of lung cancer, our standards of care reproduce international guidelines in terms of extent of resection, nodal dissection and postoperative care. In case of extended disease, we have developed original techniques of combined resection and reconstruction of the bronchus and/or pulmonary artery to avoid pneumonectomy, whenever feasible.

Three-dimensional chest wall reconstruction is performed by the use of an innovative technique developed at the INT. In the surgical management of malignant pleural mesothelioma, pleuropneumonectomy has been improved by the use of autologous rotated flap of the latissimus dorsi muscle instead of prosthetic material, reducing operating time and risk of infection.

The Unit provides excellent standards of care for cancer of the esophagus, with limited morbidity and mortality, also due to continuous collaboration with the Units of Diagnostic and Surgical Endoscopy, Otolaryngology, Gastrointestinal, Hepatopancreatobiliary Surgery and Liver Transplantation.

In the field of lung metastasectomy, the Unit has gained extensive experience in systematic salvage surgery thanks to our ongoing collaboration with various Units of the INT, in particular the Pediatric Oncology and the Melanoma and Sarcoma Units.

As a result of our commitment in thoracic oncology, the perioperative morbidity, mortality and postoperative hospital stay in our Unit are excellent compared to the international standards for thoracic surgery.

Keywords: lung cancer, pulmonary metastases, mediastinum

2010 RELEVANT NOTES

Collaborations

San Raffaele, Humanitas, Milan;

San Gerardo, Monza;

Istituto di Ricerche Farmacologiche Mario Negri, Milan;

Istituto Superiore di Sanità, Regina Elena, Rome;

Università degli Studi, Politecnico, Milan;

University of Oxford - UK; IARC, Lyon

Publications

Anterior diaphragmatic plication in mediastinal surgery: the "reefing the mainsail" technique. *Ann Thorac Surg.* 2010;90:2065-7.

Lung cancer screening. *Br J Cancer.* 2010;102:1681-6.

Contributions

Ugo Pastorino is scientific reviewer: *Annals of Oncology, Annals of Thoracic Surgery, British Journal of Cancer, European Journal of Cancer, International Journal of Cancer, Lung Cancer, Respiration, Thorax, Tumori, European Journal of Cardio-Thoracic Surgery*; Associate Editor: *Journal of the National Cancer Institute.*



PLASTIC AND RECONSTRUCTIVE SURGERY

HEAD

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Malaspina, Giovanna Melia, Serafina

Micalizzi, Francesco Nicotera, Caterina

Pireddu, Irene Rossi, Maria Saracino

(Head), Rosanna Scarpa, Raffaella

Tupputi

TECHNICIANS

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N. Ybazeta Ramos

Reconstructive surgical procedures are related to demolitive breast and head and neck surgery, soft-tissue tumors, chest-wall surgery, and other types of aggressive oncologic surgeries, as well as surgical treatment and repair of skin cancer.

Oncoplastic surgery represents a new standard for reconstructive procedures after tumor excision. Plastic procedures related to breast cancer surgery account for the main workload, and fat and implant hybrid breast reconstruction is planned and started concurrently with breast ablation. Fat cell transplantation allows implant-based reconstruction in some cases even after tissue damages by radiotherapy. In patients who are not candidates for hybrid breast implant insertion, reconstruction is carried out with flaps. Diep and free flaps have been used for delayed or immediate breast reconstruction, after ablation of large soft tissue tumors, and in reconstruction after head and neck demolitions.

Cohesive gel breast implants together with fat cell transplantation and microsurgery represent the highest standard in reconstructive surgery. Fat tissue transplantation using fat cells together with adipose-derived fat cells and platelet-rich plasma allow us to regenerate damaged tissue. Oncoplastic surgery is actually the main activity of the unit and the core of its clinical and experimental investigations.

Keywords: plastic, oncoplastic, surgery, microsurgery, fat cell transplanatation

2010 RELEVANT NOTES

Collaborations

We continue collaboration with the Department of Experimental Oncology and Molecular Medicine to evaluate the stem cell activity of injected fat cells. We extended our collaboration in clinical investigations with Israel and Argentina.

Publications

Simultaneous augmentation and periareolar mastopexy: selecting the correct implant. *Aesthetic Plast Surg.* 2010;34:33-9.

Contributions

In 2010, enrollment for clinical trials is continuing and new clinical studies and experimental investigations have been started. The collaboration with the Politecnico University is still active and new studies have been set including that with the Unit of Cell Factory of the Policlinico.



OTOLARYNGOLOGY SURGERY

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The Unit is among the most dynamic and busiest in Italy, with both local and national referral patterns. Yearly, more than 650 operations are performed. The Unit is highly specialized in the treatment of benign and malignant tumors of the head and neck area, including thyroid and salivary gland tumors, focusing considerably on quality-of-life issues such as retaining the ability to speak and swallow, maintaining a normal appearance, and optimizing the functional outcome of radiation and surgical treatments.

We have developed a multidisciplinary team including specialists in surgery, radiation oncology, medical oncology, endocrinology, radiology, pathology, plastic and reconstructive surgery, dental and maxillofacial prosthetics, nutrition, and pain management. Weekly staff meetings ensure that each patient receives the state-of-the-art treatment, as well as rehabilitation and prevention services tailored to his or her needs.

Preclinical research is conducted in collaborations with medical oncologists, pathologists, and molecular biologists on prognostic features and molecular targets of head and neck cancer.

In collaboration with qualified experts of other Italian hospitals, we are developing guidelines for the management of head and neck tumors.

Our outpatient oral precancerous lesions unit has been increasing its activity in the diagnosis and conservative treatment of these lesions, and our attention is focusing on HPV-related lesions and the cancerogenetic role of this virus.

Flexible and rigid fiberoptic endoscopes, flexible fiberoptic endoscopes with working channel for video-assisted biopsy, laser-assisted surgery of larynx and oral cavity were also used.

Keywords: head and neck cancer, reconstructive surgery, organ preservation, multidisciplinary approach, quality of life, precancerous lesions, HPV-related lesions

2010 RELEVANT NOTES

Collaborations

The Unit actively cooperates with the Otorhinolaryngologic School of Specialization of the State University of Milan, hosting residents for hands-on training, and organizes several lessons and courses.

In cooperation with "Miguel Hernandez de Elche" State University of Alicante (Spain), the Unit organizes a theoretical and hands-on head and neck dissection course for young surgeons

Publications

Open organ preservation surgery of the larynx: Experience of Istituto Nazionale Tumori of Milan. *Head Neck*. 2011;33:673-8.

Salivary gland carcinomas in children and adolescents: A population-based study, with comparison to adult cases. *Head Neck*. 2010 Nov 10. [Epub ahead of print]



UROLOGIC SURGERY

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In 2010, new trials have been initiated for urothelial cancers and germ-cell cancers.

Urothelial Cancer An Institutional Phase II trial have been started with the multikinase inhibitor pazopanib for pre-treated metastatic patients. Very promising interim results have been presented (Necchi A, LBA23, ESMO 2010). Furthermore, an Institutional Phase II translational trial of chemotherapy (cisplatin-gemcitabine) combined with a targeted therapy (sorafenib) in neoadjuvant setting began enrolling patients in Q3 2010. Also, we will participate in a multicenter, randomized Phase II trial of first-line vinflunine-carboplatin compared with vinflunine-gemcitabine for patients unfit for platinum-based therapies. We designed a new, comprehensive web-based database for bladder cancer at INT.

Testicular Cancer We started a Phase III, non-randomized trial comparing open and laparoscopic retroperitoneal lymphadenectomy in clinical stage I non-seminoma and a 2nd-line Phase II trial of tandem high-dose chemotherapy in relapsed germ cell tumors. We contributed to the final analysis of an international study on prognostic factors in relapsed or refractory male patients with germ cell tumors. We also designed a new comprehensive web-based database for this disease.

Penile Cancer We designed a Phase II EORTC trial with the combination of TPF chemotherapy with anti-EGFR targeted therapy as neoadjuvant treatment for locally advanced squamous cell penile carcinoma.

Renal Cancer We broadened our prospective case-series of surgery combined with targeted therapy for locally advanced disease and with cryotherapy for small renal tumors. We extended the indications for conservative laparoscopic surgery.

Supportive care We started a multicenter Phase I/II trial investigating a new orally available thrombopoietin-receptor agonist (eltrombopag) for patients candidates to chemotherapy.

Rare Genito-Urinary Tumors We pursued consultations within the Italian Rare Tumors Network (RTR).

Prostate Cancer See Prostate Program page 13.

Technical approaches other than conventional surgery are: Laparoscopic surgical devices (dedicated high-technology operating room); Laser-therapy outpatient facilities for early-stage penile cancer; Cryotherapy for early renal cell neoplasms (in collaboration with the Interventional Radiology Unit).

Keywords: multidisciplinary oncology, genito-urinary oncology, rare tumors

2010 RELEVANT NOTES

Collaborations

European Organisation for the Research and Treatment of Cancer (EORTC)

Publications

Prognostic factors in patients with metastatic germ cell tumors who experienced treatment failure with cisplatin-based first-line chemotherapy. *J Clin Oncol.* 2010;28:4906-11

Retroperitoneal lymph node dissection with no adjuvant chemotherapy in clinical stage I nonseminomatous germ cell tumours: long-term outcome and analysis of risk factors of recurrence. *Eur Urol.* 2010;58:912-8

Contributions

ROL (Rete Oncologica Lombarda). Guidelines on adult male germ-cell tumors



PEDIATRIC SURGERY

HEAD
Luigi Piva, MD

The Unit collaborates with pediatric oncologists and provides a high standard of treatment for the most frequent solid tumors observed in children and adolescents. The role of surgery is established according to ongoing European treatment protocols.

During the 2010 the following surgical interventions were carried out.

Wilms' tumor. 8 surgeries on patients enrolled in the TW 2003 AIEOP (Associazione Italiana Ematologia Oncologia Pediatrica) study were performed. In the management of 1 bilateral tumor, aggressive surgical resection was avoided to preserve long-term renal function.

Neuroblastoma. 7 surgeries.

Germ cell tumors and gynecological tumors. 2 and 4 surgical procedures were performed, respectively; 3 other retroperitoneal lymphadenectomies were carried out. In addition, 4 reconstructive surgeries were performed.

Soft tissue sarcomas and rare tumors. Surgery on soft tissue sarcomas was performed in collaboration with the Melanoma and Sarcoma Unit: 18 soft tissue tumors and 8 cutaneous lesions.

Cranio-maxillofacial tumors. In this type of tumor, patient eligibility for surgery is discussed in cooperation with the ORL Division: 7 thyroidectomies and 9 facial surgeries.

Lung metastases. The eligibility of patients is discussed in collaboration with the Thoracic Surgery Unit: 12 metastasectomies.

In collaboration with the Colorectal Unit, 5 colectomies through laparoscopy were performed. Liver Surgery was also performed with the devoted Unit with one partial resection and two orthotopic liver transplantations.

Finally, 14 surgical biopsies were necessary for 3 sarcoma, 9 lymphadenopathies, and 2 hepatic lesions.

Keywords: renal tumors, pediatric sarcoma, multidisciplinary teams

2010 RELEVANT NOTES

Publications

Renal cell carcinoma in children and adolescents.
Expert Rev Anticancer Ther. 2010;10:1967-78.

Contributions

START: Wilms' tumor

Collaborations

SIOP and AIEOP pediatric renal tumor groups



LASER THERAPY

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The Unit is dedicated to diseases where laser therapy is the first or only treatment choice and the Unit features high quality instrumentation: 4 lasers for a total of 20 wavelengths. This allows both conservative and ablative therapies. Selective photothermolysis laser treatment is performed for keloids, pigmented and vascular lesions, and the laser ablation technique is used for mucosal and skin cancers lesions requiring histological evaluation.

Treated lesions can be conveniently classified into 5 groups:

Vascular lesions: flat-type congenital capillary angiodyplasia, angiomas, and venous-lymphatic angiodyplasia

Tumor lesions: melanoma in-transit metastases, cutaneous and mucosal localizations of Kaposi's sarcoma, skin carcinomas, precancerous lesions such as actinic keratosis

Nevi: giant melanocytic nevi

Traumatic and post-burn hypertrophic scars and keloids

Cutaneous localizations originating from complex syndromes, such as adenomas in tuberous sclerosis, angiodyplasias related to Sturge-Weber syndrome, neurofibromas, and cafe-au-lait spots in neurofibromatosis (with the INT serving as national referral center for this disease). Compared with previous years, an increasing rate of tumoral and vascular diseases and complex syndromes was observed. Laser procedures were performed in collaboration with the Melanoma and Sarcoma Unit for the treatment of melanoma in-transit metastases, and in collaboration with the Radiology Unit congenital and acquired vascular lesions are diagnosed and followed.

The general clinical management of patients affected by neurofibromatosis is ensured by the Medical Genetic Unit of the Fondazione IRCCS Policlinico of Milan.

In collaboration with the Department of Anesthesiology, 88 pediatric patients affected by giant nevi, post-burn scars, hemangiomas and congenital vascular pathologies were treated with laser procedures under general anesthesia.

During 2010, 2,800 patients were treated with laser therapy; 1,900 of these procedures were in an ambulatory setting.

Keywords: laser therapy, Q-Switch laser, CO2 laser, skin cancer, giant nevi, angiodyplasia, keloid



