papers from this single institution, at least it would allow the interested reader to explore further without too much difficulty.

This is an authoritative and even classic text quite unlike any other currently available, almost deliberately ignoring the approach of other centres. It is rather comforting to see that there is still a place for such an iconoclastic approach these days and I have no doubt that the new addition will sell well. As a reviewer of the first edition pointed out, "it should be in the library of every Radiotherapy Department, and in the hands of every trainee" and I look forward in due course to seeing the third edition.

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Interventional Radiation Therapy

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THE IDEA of this compilation of papers from various authors on a large variety of techniques and results of interstitial and intracavitary brachytherapy was originally intended to summarise the presentations made at a meeting held in Rothenburg in 1987 to promote brachytherapy in Germany. The final book published in 1991 obviously deserves wider objectives and should stimulate the interest of radiation physicists, radiation biologists and radiotherapists involved in brachytherapy.

The basic principles of clinical radiobiological and radiation physics of brachytherapy are first addressed by major experts in a clear and concise sequence of papers with reference to updated concepts, e.g. low dose rate (LDR) and high dose rate (HDR) brachytherapy. Then, the major tumour locations benefiting from brachytherapy techniques are individualised in sections containing an average of five presentations each to cover the field with a variety of technical aspects and clinical experiences. Not only are the most common sites exposed (cervix, head and neck, breast, gynaecology), but rarer and/or tumour sites benefiting more recently from brachytherapy have been revisited and subjected to equal interest as the more classical applications: as a matter of fact, there are few examples of books offering such an extensive coverage of brachytherapy techniques on choroidal melanoma, anal canal cancer, prostatic cancer and interstitial hyperthermia. HDR brachytherapy on bronchus and oesophageal carcinoma is not covered. The usual risk of heterogeneity for scientific quality and editorial presentation has been remarkably avoided.

There is no weak chapter in this book and some "old fashioned" techniques are only presented as landmarks to compare most recent approaches. This is in the reviewer's opinion the only point which can be criticised when, for instance, HDR gynaecological brachytherapy performed with good applicators and modern dosimetry is compared with LDR results from historical periods without the same technology and computer facilities. However, an effort was made in most papers to use modern units for defining the source activities and for reporting treatment planning.

Although most of these papers are representative of the major technical progressions in brachytherapy, they also bring some evidence of the difficulties met in establishing useful comparisons between treatment methods and results. As a matter of fact, the reference to ICRU report 38 for gynaecological applications is seldom made. A similar report is not yet available for brachytherapy interstitial applications. In addition, the need for international agreements on how to report complications appears to be a first priority.

Apart from these comments which hopefully should stimulate authors to improve their future manuscripts, it is quite clear that this book represents a very useful investment for the brachytherapy practitioner in a field in which updated textbooks are rare, while technical aspects and indications of brachytherapy are experiencing a rapid and successful revival.

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News

A Decade of Cancer Education and Training in Europe

Europe is beginning to get the feel of its "rendez-vous" with all the changes of the new era heralded by the historic date of 1992. Apart from the wider spectrum of events taking place in all the countries of the Community, the European School of Oncology (ESO) will be marking the end of a first decade of activity and, should the present trend continue, it will largely surpass the overall figure of 10 000 alumni throughout the world.

The map of the European effort against cancer is becoming ever clearer and more promising: the European Organization for Research and Treatment of Cancer in Brussels, the New Drug Development Office in Amsterdam of the same organisation, the European Molecular Biology Laboratories in Heidelberg, the Chairmanship of the EC Committee of Cancer Experts in Paris, the European Journal of Cancer in London and the ESO in Milan are all part of an increasingly efficient and interacting structure which is strengthening Europe in the field of oncology.

The ambition of the School is to contribute to a reduction in that segment of cancer mortality which can be imputed to late diagnosis and/or inadequate treatment. Unfortunately, this segment can represent a percentage of as much as 20% in some countries, and an improvement in the oncological skills of health professionals is becoming a crucial factor in any successful plan for the control of cancer.

The ESO has made (and will continue to make) every possible effort to keep its scientific independence of any non-medical influence while being well aware of the considerable importance of technology in cancer medicine. Moreover, the importance of industrial research is acknowledged and ESO collaborates very positively with it, e.g. by inviting researchers from companies to teach in courses and seminars.

As a final comment, even if 1992 is to be the year of Europe, this does not mean that one should stop looking to America; their system of promoting the education of doctors by both periodical controls and fiscal incentives (i.e. Continuing Medical Education) has proved to be an effective and certainly a positive move when compared to the lack of any kind of initiative in this field on the part of most European countries. Will we one day see a European Medical Association willing to review the infinite number of congresses, workshops and meetings and to make a distinction between truly scientific and educational events and those which resemble tourism and business events? Nothing against such happenings, provided they do not abuse the name of scientific eduction.

The ESO is much indebted to the hundreds of oncologists, general practitioners, nurses, secretaries and health professionals in general who have so enthusiastically offered their knowledge to update and train their colleagues in this decade. It has been a great pleasure and honour to have had them with us, and we hope to be able to continue to provide the medical community with our services for many years to come.

Alberto Costa
ESO, Director

Controversies in the Management of Lung Cancer 23–25 September 1991, Venice, Italy European School of Oncology Meeting Report

TO REVIEW the current controversies in the management of lung cancer, an international panel of experts in cell biology, radiotherapy, surgery, medical oncology and pulmonary medicine gave presentations at a meeting of the European School of Oncology entitled "Controversies in the Management of Lung Cancer" and held 23–25 September 1991, Venice, Italy.

Dr Desmond Carney (Mater Misercordae Hospital, Dublin, Ireland) presented an overview of lung cancer biology. There has been an explosion in our understanding of the cell biology of lung cancer made possible in part by the availability of human lung cancer cell lines representing each histological type of lung cancer including squamous carcinoma, adenocarcinoma and its bronchoalveolar subtype, large cell carcinoma, and small cell carcinoma (SCLC). Small cell carcinoma cell lines grow in serum-free chemically defined media with hydrocortisone, insulin, transferrin, oestradiol and selenium. The cells grow as floating aggregates which are tightly adherent ('classic' cell lines) or loosely adherent ('variant' cell lines). The SCLC cell lines have a number of neuroendocrine properties including: (1) production of dopa-decarboxylase, creatine-kinase BB isoenzyme, chromogranin A, polypeptide hormones (including bombesin/gastrin releasing peptide, arginine vasopressin, calcitonin, somatostatin and others); (2) the presence of neurosecutory granules; and (3) cell surface antigens including neural cell adhesion molecule (NCAM, cluster 1), neuron-specific enolase (NSE), Leu-7, and others. Recently, it has been appreciated that 20–30% of tumours classified as non-small cell carcinomas (NSCLC) by pathologists have neuroendocrine features. These endocrine NSCLC tumors have a slightly higher response rate to chemotherapy than non-endocrine NSCLC tumours. All lung cancers have epithelial properties and differentiation toward various cell types may change *in vitro* or *in vivo*, suggesting a common stem cell origin.

The majority of non-small cell lung cancer (NSCLC) cells express EGF receptors and respond to EGF, NGF and TGF-alpha with proliferation. Interference with this pathway could lead to new methods of treatment and prevention. Trials of anti-EGF receptor antibodies were reviewed. Neuropeptides such as GRP, AVP, etc., are growth factors for SCLC and to a lesser extent for NSCLC. They induce signal transduction by activation of phospholipase C, protein kinase C, liberation of inositol trisphosphate (IP3), intracellular calcium and ultimately transcription of genes including those involved in proliferation. Interference with multiple peptide receptors or the signal pathway open up new therapeutic possibilities.

A small proportion of lung cancers express amplified or mutated oncogenes. In SCLC, 10–25% of cases have amplification of one of the *myc* family of oncogenes (*c-myc*, *L-myc*, *N-myc*) which may be associated with an aggressive course. In adenocarcinoma, about 25% of cases have a mutated K-ras oncogene which is also associated with a poor prognosis. There is an association of overexpression of *erb*-B and the EGF receptor, especially in NSCLC. Transfection of *ras* genes into SCLC tumours causes loss of neuroendocrine features.

Suppressor oncogenes play a more important role in lung cancer. Virtually all SCLC tumours have a loss of one or more oncogenes in the region 3p14-23. Virtually all also have mutations in the p53 oncogene on 17p and most have abnormalities of retinoblastoma protein. In NSCLC, nearly all tumours also have p53 mutations, the majority have 3p loss and many have retinoblastoma protein abnormalities.

Dr Robert Ginsberg (Department of Thoracic Surgery, Memorial Sloan-Kettering Cancer Center, New York, USA) discussed the role of surgery in small cell lung cancer. Dr Ginsberg concluded that surgery is indicated in peripheral clinical stage I small cell lung cancer and if this histology is confirmed at operation, post-operative chemotherapy is recommended. Every attempt should be made during the surgical procedure to effect a complete resection. However, when more locally advanced stage II and III small cell lung cancer is identified preoperatively, there is no evidence, as yet, to recommend the addition of surgery to conventional chemo/radiation therapy. The role of neoadjuvant chemotherapy and radiation followed by surgery should be considered to be experimental. A randomised trial has been conducted by the Lung Cancer Study Group and preliminary results show no benefit for adding surgery after chemotherapy and radiation therapy.

Dr Paul Bunn (Division of Medical Oncology, University of Colorado Cancer Center, Denver, Colorado, USA) summarised results of chemotherapy as a surgical adjuvant approach for operable stages and as a preoperative neoadjuvant therapy in inoperable Stages IIIA and IIIB NSCLC. There is evidence that post-operative chemotherapy improves survival in Stage II and IIIA NSCLC but not in Stage I. Additional trials with platinum based chemotherapy are necessary and are ongoing in the USA.

For patients with regional but inoperable stages (some IIIa and IIIb NSCLC), experimental approaches have included the combined use of chemotherapy and radiotherapy and the neoadjuvant use of these agents before surgery. In the USA,