Organ Conservation in Curative Cancer Treatment

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Organ Conservation in Curative Cancer Treatment
Indications, Contraindications, Methods

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Jerome M. Vaeth, San Francisco, Calif.

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To Mr. Russell Humphrey,  
for his support of the  
San Francisco Cancer Symposium

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What advances are being made in cancer therapy? Improvements in cancer cure rates have been slowly accruing, yet survival statistics fail to reflect many of the most dramatic advances - improvements in the speed and accuracy of diagnosis, and reductions in the morbidity of therapy from disfigurement and functional impairment. Now more than ever, quality of life concerns emerge as essential considerations in the selection of a cancer therapy program.

Undoubtedly 'conservative' therapies were the first approaches to the treatment of solid tumors - and the first to show local and distant cancer failure. The inadequacy of minimal therapy for aggressive tumors surely was the historical impetus for the development of radical treatment programs, ones that often emphasized surgical skill in removing the primary tumor and its subclinical extensions. Our many advances in technique and technology now allow us to challenge - or to replace - many 'radical' approaches with ones that optimally integrate multiple therapeutic modalities. With increasing reliability, treatment programs for many tumor sites can effectively cure the cancer and preserve the patient's physiologic organ functions and cosmetic body image.

The challenge: these new conservation approaches require even more sophisticated knowledge of current cancer diagnosis, more careful case selection based upon the results of rigorous protocol studies, more exacting methodology in the highly technological aspects of modern radiotherapy, surgery and chemotherapy, and far greater understanding of the potential benefits and hazards of often complex treatment programs. Along with this, it must be understood that failure to understand the exacting requirements of conservation therapy potentially can result in needless loss of life.

An important element of the success of our new conservation approaches is the earlier diagnosis of malignancy and the more accurate
assessment of its extent. The advances in high-resolution computerized
tomography and ultrasound, magnetic imaging and mammography have
had as much to do with the development of successful conservation therapies
as the techniques themselves. An expert diagnostic team is essential to
the therapeutic strategies discussed in our volume. The work of Dr. Brady
and colleagues exemplifies this: with high-resolution ultrasonography, panoramic
ocular photography, ophthalmoscopy and angiography, melanomas
of the choroid can be diagnosed and treated with an exceptional level
of accuracy and tumor control, and with cosmetic and functional preservation
of the eye as the therapeutic reward.

Critical to the conservation approaches is the development of highly
sophisticated technologies in therapy delivery, and the advances in radiation
therapy have been especially important. We know that inaccurate
radiotherapy can produce deformities and impairments of organ function
potentially as severe as those from radical surgical approaches. We must
also appreciate that by limiting radiotherapy - by increasing its precision -
we can contribute to organ preservation just as we can by limiting radical
surgery. Outstanding progress in precision radiotherapy delivery, made
possible by newly available computer technology, is well described by Dr.
Kutcher and co-authors for three-dimensional treatment planning, and by
Drs. Loeffler and Alexander for radiosurgery.

Important aspects of organ preservation in curative cancer therapy are
presented for each of the major tumor sites by our distinguished faculty. I
am especially pleased that Dr. Million has provided a comprehensive review
of his decades of experience in the treatment of ENT tumors. In no other
tumor region is it so clear that overzealous radical treatment can result in
overwhelming disfigurement and dysfunction, yet inept case selection for
conservation treatment can result in treatment failures that may have only
the physician to blame. His concise comments distill years of work.
Conservation techniques can impact large numbers of individuals
through the treatment of breast cancer, and I devote a substantial part of

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this volume to careful discussions of case selection and therapy delivery for
that cancer. Included are comprehensive reviews by Harvard colleagues
Drs. Connolly and Recht, and by Dr. Carlos Perez, recipient of the Second
Annual Vaeth Distinguished Lecturer award of this year's San Francisco
Cancer Symposium.

For the current volume the First Annual del Regato Lectureship is
initiated, and is given by his student and colleague, Dr. Vaeth. In so doing,
we recognize Dr. del Regato’s outstanding contributions to cancer medicine
and Dr. Vaeth's commitment to Dr. del Regato's ideals. Several chapters recently published in this series are of importance to this subject and complement this volume. In volume 26 of this series, an especially important chapter is that on the conservation therapy of anal cancer by Dr. B.J. Cummings. Moreover, this prior volume on chemotherapy-radiotherapy interactions represents in many ways part one of a two-part series on the modern integration of cancer therapies. I am pleased that many of the world's foremost authorities have contributed their clinical results and lifetime clinical experiences to this publication effort.

John Meyer, MD
Director, Department of Radiation Oncology
Saint Francis Memorial Hospital
Clinical Associate Professor of Radiation Oncology
Stanford University School of Medicine