CTC course—may be well-tolerated and are not associated with excess organ toxicity.

13
IMAGING OF PROSTATE CANCER

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For the diagnosis of prostate cancer, transrectal ultrasonography (TRUS) is the only appropriate imaging tool. Its sensitivity can be further increased by systematically applying color-Doppler imaging.

TRUS is also a significant aid for biopsy guidance, either for focal lesions, to direct biopsies to suggestive and potentially involved areas, or for any set of systematic biopsies.

Magnetic Resonance (MR) imaging is the most useful tool for evaluation of local extension, especially to the seminal vesicles. As TRUS, MRI though has its limitations, particularly in the evaluation of microscopic disease.

It is presumed that patients at increased risk of lymph node metastases are most likely to benefit from CT or MRI and subsequent fine needle aspiration cytology when lymphadenopathy is found.

14
SCREENING FOR PROSTATE CANCER

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Prostate cancer is the second most frequent malignant disease and the second most frequent cause of cancer death in men. Prostate cancer can be detected early by means of rectal examination (DRE), Protate Specific Antigen (PSA) and Transrectal Ultrasonography (TRUS). Obviously, advanced prostate cancer passes through a contined stage. Can it, however, be effectively identified and treated to decrease prostate cancer mortality and to improve overall life expectancy and quality of life?

A considerable number of case finding studies have been carried out and published. These show stage reduction at the time of diagnosis with respect to clinical routine. Tumours diagnosed in this way can more frequently be completely excised. Does this all translate into advantages which make early detection clinically worthwhile and acceptable as a public health policy? These questions are subject to the European Randomized Study of Screening for Prostate Cancer (ERSPC). Aspects of the natural history, the effectiveness of early detection tests, the effectiveness of treatment, the results of pilot studies, ethical problems of screening and issues of quality of life will be discussed.

15
DEFERRED TREATMENT FOR EARLY STAGE PROSTATE CANCER

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The 1992 TNM classification introduced a new type of prostate cancer, diagnosed by needle biopsy because of a raised serum PSA, called T1c. If current North American fashion crosses the Atlantic thousands of unsuspecting European men will discover they have this disease and will seek treatment. Should immediate total prostatectomy, or radiotherapy, be recommended? Are T1c cancers "clinically significant?" Is "watchful waiting" appropriate? Do they behave as T1a, T1b or even T2 tumours?

Watchful waiting means regular review. Some men find this process very reassuring but others experience increasing anxiety and difficulty living with an untreated cancer. Deferred treatment implies treatment for progression. Should we wait for symptoms which for most will be painful metastases and palliative treatment only? Should treatment be triggered by increased in size of the primary tumour—will prostatectomy be too late? Should a rising PSA be treated? If so, at what level?

In many ways watchful waiting is more difficult for the physician than early "definitive" treatment but all forms of treatment are associated with significant morbidity. For the patient quality of life as well as longevity is of paramount importance.

The logical solution is a randomised trial. The Swedish study of surgery and watchful waiting for some forms of early prostate cancer has recruited over 400 patients. However, experience in the U.K. and North America suggests that treatment choice based on randomisation is not accepted by many of the patients. When "fully informed", many men have difficulty accepting such different treatments by random allocation. How should we proceed? Should patients be less informed? Should trials be based on post-randomisation consent? Should PSA for early detection be made available only to those men who will accept treatment in a randomised trial? Is it possible to devise statistical methods that overcome the biases introduced by allowing patients to choose? There are no easy solutions but thoughtful, informed and open debate is urgently needed.

16
THE ROLE OF EXTERNAL IRRADIATION IN EARLY PROSTATE CANCER

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In Europe, the incidence of prostatic carcinoma is increasing, certainly due to both a better declaration of cause of death to cancer registries, and an increased practice of individual screening in men by serum determination of PSA. Consequently the clinical diagnosis is more and more frequently done at a loco-regional stage such as T1T2. When we look at the long term results of external irradiation, survival and progression free survival are progressively decreasing and the higher the clinical stage, the poorer the prognosis. From a radio-therapeutic standpoint many issues remain unanswered, which could have an impact on survival, concerning: the assessment of lymph node status by laparoscopic procedures, the opportunity of hormonal treatment (neo-adjuvant or adjuvant), the indications of post-operative radiotherapy after radical prostatectomy, elevated PSA after definitive radiotherapy, a better understanding of the tumoral phenotype. 3D conformal radiotherapy, inverse dosimetry and electronic portal imaging device represent a major breakthrough which enable the radiation oncologist to adapt the isodose as closely as possible to a customized target volume, to improve patient set-up accuracy, and why not, in the near future to improve local control and survival among negative pelvic lymph node patients, as well.

17
RADICAL PROSTATECTOMY

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Radical prostatectomy has become a standard operation attempting cure for localized prostate cancer. Advances in diagnosis enable the identification of the disease at an early stage when more patients are curable and refined techniques for staging have improved the selection of surgical candidates. Radical prostatectomy should be reserved for those patients who can be cured and who will live long enough to benefit from it. It is possible to cure many patients with organ confined cancer and some patients with specimen confined tumors. With the ability of wide tumor excision, clinical local recurrence rates are low although biochemical recurrence is much more frequent, and most patients who fail do so from distant metastases. All efforts should be undertaken to diagnose this increasing and life threatening disease in the earliest stages.

18
NOVEL RADIATION MODIFIERS

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The clinical approaches toward radiosensitization have utilized a number of different concepts including hypoxic cell sensitization, halopyrimidine-based radiosensitization and the use of combined modality therapy with chemotherapy plus irradiation. There are currently a new set of agents undergoing clinical trials called radiation enhancers or hypoxic-cytotoxic agents. These agents are designed to kill poorly perfused cells, which might limit the success of both radiation therapy and chemotherapy. Unlike the hypoxic sensitizers or oxygen modifiers, these agents can produce sensitization when given either before or *after* radiation.

Based on the emerging knowledge of the cellular and molecular responses to ionizing radiation, novel agents are being conceptualized that may alter both tumor and normal tissue response.

Supported in part by CA 42391, NIH, DHHS, Bethesda, MD.