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Adenocarcinoma of the Prostate: Overview II

This section of the *Journal* features an update on current topics in the diagnosis and management of prostate cancer and follows and builds upon a similar section of papers published in the *Journal* three years ago (Volume 37, Number 1, 1989).

National attention has focused recently on prostatic adenocarcinoma, and the demographics of this disease are increasingly recognized and discussed. Adenocarcinoma of the prostate is now the most common visceral cancer of males in the United States. It is estimated that 132,000 new cases of prostate cancer will be diagnosed and that 34,000 deaths will occur from this disease in 1992. American black males have an incidence and mortality 50% higher than that for white males and a death rate that is the highest in the world. Burks and Littleton (pp. 89-92) review the current literature in the epidemiology of prostate cancer in black men, examining a variety of possible causative factors.

Dr. Shetty and I attempt to put into perspective the use of prostate-specific antigen (PSA) in screening, staging, and monitoring carcinoma of the prostate (pp. 93-98). Prostate-specific antigen density (PSAD), defined as serum PSA divided by prostate gland volume, may be a more useful predictor of prostate cancer than serum PSA alone. The roles of digital rectal examination (DRE), PSA, PSAD, and transrectal ultrasound (TRUS) are discussed. The utilization of these techniques in "screening" is assessed, recognizing that patients have a much greater risk of developing prostate cancer than dying of it and that early diagnosis must be tempered by an understanding of the natural history of the disease.

Peters-Gee, in her excellent update on the role of ploidy in prostate carcinoma (pp. 99-102), discusses DNA quantitation as a prognostic determinant that may give insight into the biological behavior of the neoplasm in individual patients. This may aid in the selection of those patients whose neoplasm should be treated aggressively, versus patients with small, differentiated, localized tumors who would do well without active therapy.

Therapeutic options for treatment of localized carcinoma of the prostate include external beam radiation therapy and radical prostatectomy. Khil and Kim discuss the use of ionizing radiation, both external beam and interstitial, in the treatment of prostate cancer (pp. 103-107). They emphasize its use in the context of primary management of early and locally advanced prostate cancers, as well as in patients who undergo prostatectomy and are found to have residual or recurrent local disease. Highly fo-

cused, precision delivery of a curative dose of radiation to the prostate is feasible through the use of improved imaging techniques and complex multiple field arrangements. The use of three-dimensional external beam radiotherapy, as well as a protocol for concomitant chemotherapy and radiotherapy, is discussed.

The Henry Ford Hospital experience with radical prostatectomy in the treatment of localized prostate cancer is presented by Telang et al (pp. 108-110). Over 350 patients have been treated by radical surgery at Henry Ford Hospital in the past five years; Telang and associates analyze the results of the 100 patients who underwent radical prostatectomy by the nerve-sparing technique. The nerve-sparing technique is discussed in the context of whether efforts to spare the neurovascular bundle, in an attempt to preserve sexual potency, carry a risk of positive surgical margins and incomplete resection of the disease.

Impotence is an inevitable complication of the treatment of carcinoma of the prostate, both by surgical and by radiation techniques. Telang and Farah discuss the management of impotence in this setting and present their experience with 50 prostate cancer patients who have undergone placement of penile prostheses (pp. 111-113). They discuss other therapeutic alternatives for patients with impotence resulting from treatment of prostatic carcinoma, such as oral pharmacologic therapy, vacuum suction and penile constriction devices, and intracavernosal injection therapy.

Miles and Babiarez review maximal androgen ablation in the treatment of advanced prostate cancer (pp. 114-117). Of particular note is the recent National Cancer Institute study designed to evaluate the possible benefit of combined androgen therapy. This study, carried out in patients with previously untreated stage D2 prostate cancer, found that combined androgen therapy (the use of modalities to suppress both adrenal androgens and testicular androgens) significantly increased survival, particularly in those patients with minimal disease and good performance status.

Not discussed in this cohort of papers, but vitally important in the diagnosis and management of prostate cancer, is the use of TRUS. In conjunction with DRE and PSA determination, TRUS is necessary for optimal screening. TRUS also provides accurate localization for guided biopsy, gives prostatic dimensions for calculation of volume and PSAD, and can assist in establishing the stage of localized disease.

The rising incidence and mortality of prostate cancer in the United States mandate a major clinical, educational, and research commitment to its early diagnosis and appropriate treatment. At the same time, it must be recognized that there is a fourteen-fold greater risk of developing prostate cancer than there is of dying from it, and many patients may harbor small, biologically quiescent or latent lesions which will not progress to manifest clinically and should not be treated. In our understandable zeal for mass screening, earlier diagnosis, and techno-

logical advances in the treatment of prostate cancer, it is important to ask, as Willet Whitmore has done, "whether cure is necessary in those in whom it is possible, or whether cure is possible in those in whom it is necessary."

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