

## **"Postirradiation Prostatitis: A Previously Unrecognized Syndrome Following Brachytherapy For Prostate Cancer"**

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**Purpose:** Based on responses to validated questionnaires on urinary function, we have prospectively diagnosed men since 1996 who have developed a constellation of recurrent urinary symptoms months after implantation with a syndrome called postirradiation prostatitis (PIP). The findings are described in this report.

**MATERIALS AND METHODS:** From 1992-1999, 2,567 consecutive men with clinical stage T1-T4NxM0 prostate cancer were treated by simultaneous irradiation; transperineal prostate I-125 implant followed by external beam irradiation. Questionnaires on urinary function were given all men pretreatment, after the implant, at the end of external radiation and at each followup performed every six months dated from implant. In 1996, the AUA symptom index questionnaire was added and since July 1996, of the 1,722 men treated who did not receive pretreatment hormones, a diagnosis of PIP was prospectively determined in men who after finishing treatment had a recurrence simultaneously of two of these three symptoms: dysuria, urinary urgency or a one-third increase in the AUA index along with an increase in urinary bother. Median followup is 4.5 years (range, 3-8).

**RESULTS OBTAINED:** Of the total, 13% (237/1722) were diagnosed with PIP. The median time to diagnosis of PIP was 18 months dated from implant and duration of this symptom was 6 months in 81% of men. At 18-month followup, the average AUA symptom index was 13.4 in men diagnosed with PIP in contrast to 9.4 for men without PIP. Parallel changes were found in the degree of dysuria, urinary urgency and urinary bother. The median time-to-onset of PSA bounce was 18-month and 50% of men with PIP had a PSA bounce compared to 41% of men without PIP. On multivariate analysis, there was no association of PIP with pretreatment PSA, Gleason score or stage of prostate cancer.

**CONCLUSION:** PIP is a previously unrecognized and self-limited syndrome that occurs typically 18-months postimplant and is characterized by a recurrence of urinary symptoms thought due to delayed information of benign prostate epithelium from irradiation and may be the cause of PSA bounce.