

## "Acute and Late Morbidity Following Simultaneous Irradiation for Prostate Cancer"

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**OBJECTIVE:** The symptom profile for external beam irradiation (XRT) has been well studied. However, few data exist regarding morbidity of simultaneous irradiation (SR), Iodine-125 implant followed by external beam irradiation. We examine acute and late morbidity following SR.

**METHODS:** From August, 1992 through November, 1999, 2,164 men with Stage T1-T2 prostate cancer were treated with SR. Treatment consisted of I-125 prostate implant (median 120 Gy) followed by 45-52.5 Gy conformal XRT delivered at 1.5 Gy per fraction. Comprehensive questionnaires detailing rectal symptoms, medications and procedures were given to patients pretreatment, weekly during XRT and at each six-month followup interval. Acute morbidity is defined as that occurring from the time of implant until three months following completion of XRT; late morbidity is defined as occurring after this period. The Fox Chase modification of the Radiation Therapy Oncology Group scoring system is used to define morbidity. 1,134 men (52%) noted rectal pathology including hemorrhoids or fissures pretreatment. Median prostate volume was 35cc (12-161cc). Median followup is 30 months (12-96 months).

**RESULTS:** 8.8% of patients experienced acute Grade II and none had Grade III/IV morbidity. Acute symptoms resolved by next followup in 92% of cases. Actuarial incidence of late Grade II, III and IV morbidity is 4%, 0.7% and 0.1% at five years. Twelve patients underwent cauterization for persistent rectal bleeding, none more than twice. Rectal pathology pretreatment was associated with acute Grade II symptoms ( $p < 0.0001$ ) but not late Grade II, III or IV morbidity. Age, prostate volume and implant dose were not significant

**CONCLUSION:** This report details acute and late rectal morbidity from SR for prostate cancer with findings similar to XRT reports. Importantly, the data indicate that patients with a history of prior rectal pathology should be counseled regarding an increased acute, but not late, incidence of Grade II toxicity.