

Five-Year Outcomes of Erectile Function, Incontinence, and Quality of Life Following Proton Therapy for Prostate Cancer in Men 60 Years Old and Younger

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BACKGROUND: This study sought to evaluate and update our institution's 5-year disease-specific and patient-reported health-related quality of life outcomes following proton therapy for prostate cancer in men 60 years old and younger.

METHODS: 255 men 60 years old and younger (143 low-risk, 106 intermediate-risk, and 6 high-risk patients) were treated with definitive proton therapy for prostate cancer without androgen deprivation therapy (ADT) on an Institutional Review Board-approved outcomes tracking protocol. Follow-up included serum prostate-specific antigen levels performed every 3 to 6 months with annual examinations by physicians. Prior to treatment and every 6 to 12 months thereafter, patients filled out the Expanded Prostate Index Composite (EPIC) questionnaires. Potency is defined as an erection firm enough for sexual intercourse in the prior month as described in the EPIC questionnaire.

RESULTS: Median follow-up was 5 years and 58% of men had 5-year EPIC follow-up. The 5-year biochemical-free survival and overall survival rates were 98.6% and 99.2%, respectively. All 3 biochemical-failure patients (1 high-risk and 2 intermediate-risk) are alive at 5 years, and none of the deaths were prostate cancer-related. Within the EPIC subscales, the urinary irritative/obstructive mean score initially declined from a baseline of 90 to 88 at 2 years that maintained for subsequent years. For the urinary incontinence score, a similar decline was noted from a baseline of 96 to 93 at 2 years that remained stable for subsequent years. Additionally, only 1.4% of men required a pad at 2 years, which is unchanged at 5 years after treatment. The bowel habits mean score initially declined from a baseline of 96 to 88 at 1 year, which subsequently improved to 93 by the 5-year follow-up. The sexual function mean score dropped 15% from baseline after 2 years, which then stabilized for the subsequent years. Further, the potency rate declined by 18% over the first year, and then declined by only 5% in the following 4 years.

CONCLUSIONS: Young men aged 60 years and younger with prostate cancer have excellent five-year disease control, erectile function, urinary continence, and other health-related quality of life parameters after proton therapy. Importantly, these outcomes were similar or better to those reported at 2 years. Longer follow-up is needed.