

Urethroplasty after Radiotherapy: A Single-Institutional Experience

Introduction and Objectives: External-beam radiation and radioactive iodine-125 or palladium seeds are becoming more widespread in the treatment of localized prostate cancer. Late complications of radiation therapy may occur months or years following the completion of treatment. Reconstructive surgery after exposure to radiotherapy is known to be a challenge due to impaired blood supply and wound healing. We present our results of urethroplasty in patients with previous history of radiation therapy.

Material and Methods: Retrospective analysis of the outcome of 25 previously irradiated patients, who underwent urethroplasty; N=17 and n=8 patients underwent end-to-end and buccal mucosal graft urethroplasty, respectively. All cases were operated in the same institute by the same surgeon. Recurrence was defined as cystoscopic finding of stricture less than 17 Fr in diameter. Complication rate was the end point of this study.

Results: Mean age of all patients was 66 years (range 54-82 years). Mean dose of radiotherapy was 84.2 Grey. Mean length of stricture was 3.5 cm (Range 1-7.5 cm). Stricture was located in bulbo-membranous urethra in 19 (76%), bulbar urethra in 4 (16 %) and in penile urethra 2 (8%) of patients. The mean follow-up of the patients was 24.2 months (range 7 - 56 months). The urethroplasty was successful without recurrence during the follow-up in 72% of cases. Recurrent strictures were managed with visual internal urethrotomy in 2 (8%) and with buccal mucosal graft in 3 (12%) of patients. Urinary diversion was required in 2 (8%) patients. However 10 (40%) patients developed postoperative urinary incontinence, artificial urethral sphincter was successfully implanted in 60% of them. There were no cases of new onset of erectile dysfunction after urethroplasty, and 88% of patients were satisfied and reported significant improvement of quality of life.

Conclusions: The results of urethroplasty in patients with previous history of exposure to radiotherapy, in experienced hands, are better than expected. The high incidence of postoperative urinary incontinence has to be considered.