Roundup

ANTIBIOTICS DURING URETHROPLASTY

Urethral stricture disease is a common urologic condition. There is no recommendation regarding the usage of antibiotics at the time of urethroplasty. Data show that there is a wide variation in antibiotic usage among urologists, as regards duration, number, and type.[1] In a multicenter study, involving 11 centers in the United States of America, Kim *et al.* have reported the results of following a standardized antibiotic protocol in men undergoing urethroplasty.[2] The objective was to determine the rate of urinary tract infection (UTI) and surgical site infection (SSI) and to identify the parameters that could predict infection. The authors included 390 men, and all patients had a urine culture or urine analysis within 3 weeks of urethroplasty. Preoperative UTI was defined as growth of >100K colony-forming unit (CFU)/mL regardless of symptoms in men without urinary catheter or growth of >50K CFU/mL regardless of symptoms in men with urinary catheter. Those men with preoperative UTI were managed with 3–5 days of antibiotics as per sensitivity reports. In perioperative period, the patients were given intravenous cephalosporin. All men were discharged on indwelling catheters and were advised to consume nitrofurantoin (100-mg twice a day) till the time of catheter removal. The patients were given ciprofloxacin or trimethoprim sulfamethoxazole (double-strength) on day of catheter removal to reduce risk of symptomatic UTI. Postoperative SSI was defined as any wound infection requiring antibiotic treatment or incision and drainage within 30 days of surgery or within 1 week of catheter removal. The criteria for postoperative UTI were $>10^5$ CFU/mL of a single organism and at least one urinary symptom, which included suprapubic pain, flank pain, fever >101°F without other identified causes, dysuria that persists >2 days after catheter removal, or frequency or urgency that persists >2 days after catheter removal. Univariate and multivariate analyses were performed to identify risk factors for postoperative UTI and SSI. The mean age of the cohort was 49.1 years with a mean body mass index of 30.8. The mean stricture length was 4.3 cm. The strictures involved bulbar urethra in 54.1%, penile urethra in 26.8%, meatus or fossa navicularis in 19.2%, and membranous urethra in 15.7%. In 58.5% of men, a graft was placed, while 24.4% of men underwent anastomotic urethroplasty or a nontransecting urethroplasty. The authors noted a 6.7% rate of postoperative UTI (26/390) and 4.1% rate of wound infection (16/390). On multivariate analysis of demographics, comorbidities, and stricture characteristics and repair, the characteristics that were found significant for postoperative UTIs were preoperative UTI ($P = 0.012$), history of cardiovascular disease ($P = 0.015$), and membranous urethroplasty ($P = 0.018$). The site/location of urethroplasty or use of grafts did not impact on postoperative UTIx. There were no factors that influenced the risk of SSI.

LINGUAL GRAFT URETHROPLASTY

Long-term results

Zhang *et al.* have shared their institutional experience with the use of lingual graft for the management of long anterior urethral strictures.[3] All men aged >14 years and who completed at least 45 months of follow-up were included. Out of 200 men operated between December 2009 and March 2016, 128 men with complete information were included in analysis. The mean age of the cohort was 46.9 ± 14.9 years (range, 14–78 years), while the mean follow-up duration was 81.0 ± 38.0 months (range, 45–132 months). The penile urethra was involved in 72.4% men and the mean stricture length was 7.7 ± 4.1 cm (range, 1–17 cm). The overall success rate was 69.5%. Binary logistic regression analysis showed that previous urethral surgery was a significant predictor of urethral stricture recurrence (odds ratio [OR] = 5.07; 95% confidence interval [95% CI], 1.06–24.40; $P = 0.043$). The length of the graft was significantly related to oral morbidity ($P = 0.020$). Patients where the harvested oral mucosa was >7 cm had a higher risk of oral morbidity compared to those with a harvested oral mucosa <7 cm (OR = 4.35; 95% CI, 1.35–14.06; $P = 0.014$).

SACRAL NEUROMODULATION

Predictors of successful outcomes

Sacral neuromodulation (SNM) procedure is performed in two stages. In the first stage, an implantable lead is placed in the sacral area with a temporary device. If the patient reports improvement, then a permanent fully internalized implantable pulse generator device is placed. Morgan *et al.* have reported large, single-institution data to define clinical and procedural characteristics of successful SNM.[4] The authors hypothesized that patients with four active electrodes at the time of Stage-I implant would have higher rates of progressing onto Stage-II implant than those with fewer active electrodes. 198 women who underwent SNM implantation between January 2007 and April 2018 were included in this retrospective review. The indications for SNM included overactive bladder, fecal incontinence, and nonobstructive urinary retention refractory to conservative

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treatments. The authors analyzed the data to find out the predictors of success for SNM for these indications. A >50% improvement in symptoms as documented on the voiding diary was considered as a successful Phase-I trial. The mean age of the subjects was 62.9 years (standard deviation ± 14.7). 92.4% of women completed the Stage-II implant. Of the women who completed the Stage-II of the implant, 83.3% reported success at the first postoperative visit. The successful outcome continued at 6-month follow-up in 70.3% women. Lead revision was required in 23%. Multivariable analysis revealed that age > 65 years (OR = 0.2, 95% CI = 0.06–0.8) and prior onabotulinum toxin-A (OR = 0.2, 95% CI = 0.06–0.9) were negative predictors for completion of Stage-II implant. Similarly, multivariable analysis showed that prior pelvic floor physical therapy was a negative predictor of postoperative success (OR = 0.25, 95% CI = 0.1–0.6). The authors did not find any differences in women who had motor responses with either all four electrodes or <4 electrodes in any end point ($P > 0.05$).

UROLOGIC MORBIDITY OF RADIOTHERAPY USED IN CANCER CERVIX

Cervical cancer is one of the leading causes of mortality and morbidity worldwide. The standard treatment for Stages 1A2 and greater is pelvic external beam radiotherapy (XRT) with brachytherapy. The addition of chemotherapy improves survival. The urologic complications of XRT are well described in the literature. Bellar *et al.* have reported their institutional data of women undergoing high-dose pelvic radiotherapy for carcinoma cervix and requiring procedural intervention attributable to XRT.[5] Women who received XRT for cervical cancer between 1998 and 2012 with known stage of disease were included. The exclusion criteria included women who received radiation dose of <50 Gy XRT, follow-up < 6 months, and incomplete data. To clearly label procedural intervention to be the result of XRT alone, women were excluded if the requirement for urologic procedure could not be attributed to radiation alone (such as women with pre-XRT hydronephrosis or women with cancer recurrence). Data regarding those complications requiring procedural intervention (Clavien–Dindo Grade ≥ III), such as ureteral stricture, fistula formation, and radiation cystitis were collected. Of the 378 women treated for cervical cancer during the study period, 134 women with International Federation of Gynaecology and Obstetrics (FIGO) Stage 1A2–4B were included in the study. The median follow-up duration was 63 months (range, 24.5–88). The mean total radiation dose received was 82 Gy, and 93.7% of women received concomitant cisplatin. Twenty-six women underwent urologic procedure. However, in only 18 women, the procedure was attributed due to the impact of XRT (in the other 8 women, it was not attributed to XRT). In these 18 women, 22 complications were noticed, with a mean of 1.2 complications per patient. The two most frequent complications were ureteral stricture and radiation cystitis. These complications needed ureteral stenting, percutaneous nephrostomy tube placement, and cystoscopy. Eventually, 259 procedures were performed, including 14.4 procedures per patient and 24.6 procedures per patient with ureteral stricture.

POSTERIOR URETHRAL VALVES

Its outcomes in adults

Data regarding the fate of children with posterior urethral valves (PUVs) into adulthood are sparse. Cetin *et al.* from Turkey have shared their data regarding renal, bladder, and sexual outcomes in adult men with treated PUV during childhood.[6] The authors retrospectively reviewed the data of 89 patients who were treated between 1980 and 2001 as children and were ≥18 years of age by December 2019. Baseline clinical data, including childhood urodynamic study, if available, were collected. Evaluation for lower urinary tract dysfunction (LUTD) was done. The final cohort consisted of 39 patients. The median age at the time of initial intervention for PUV was 36 months (range, 1–168). The initial presentation was antenatal hydronephrosis in 7 (17.9%), UTI in 13 (33.3%), and LUTD in 19 (48.7%). Fourteen boys (35.8%) have undergone surgical intervention within first 12 months of life. The primary interventions included endoscopic valve ablation in 29, vesicostomy in 8, and bilateral cutaneous ureterostomy in 2. The nadir serum creatinine levels were >0.8 mg/dL in 10 children, and 18 of 39 children had glomerular filtration rate (GFR) <90 mL/min/1.73 m^2 at the time of diagnosis. At time of final evaluation, the median age of patients was 26 years (range, 18–46). The median follow-up duration was 22.7 years (range, 15–33). As regards renal function, at final evaluation, 19 patients had normal GFR, two patients had chronic kidney disease, while 18 patients were in end-stage renal disease (ESRD). Fourteen patients with ESRD underwent renal transplantation. LUTD was seen in 15 patients (38%). Of the 22 patients with uroflowmetric information, the median values of Qmax, voided volume, and postvoid residual urine volume were 20.5 mL/sec (7–43 mL/s), 389 mL (154–1750 mL), and 18.5 mL (range 0–190 mL), respectively. Out of the 32 patients in whom the sexual function was evaluated, no patient reported any abnormality. However, four patients complained about slow ejaculation. Five patients had already fathered a child while infertility was noted in 2.

CONSERVATIVE MANAGEMENT OF LICHEN SCLEROSUS MALE URETHRAL STRICTURE

Lichen sclerosus (LS) is a cause of panurethral stricture disease in men. The treatment is mostly in the form of urethroplasty with the use of buccal grafts or staged urethroplasty. However, the results of urethroplasty in LS-induced urethral strictures (LS-USD) are generally poor. Rozansky *et al.* have shared their experience with conservative management of LS-USD.[7] These conservative options include urethral balloon dilation or direct vision internal urethrotomy (DVIU) followed clean intermittent catheterization (CIC) with or without intraurethral steroids (clobetasol 0.05%). Data of LS-induced urethral stricture patients treated between 2005 and 2019 were collected from two centers in the USA. Three hundred and twenty-two men with LS-USD were treated. Of these, 210 were treated by surgery (urethroplasty, perineal urethrostomy, or extended meatotomy). One hundred and twelve men, with median age of 52.5 years, were offered conservative management. The median follow-up of this group of men was 30 months. The median stricture length was 12 cm (interquartile range [IQR] 2.8–20), while the location of stricture was meatal/fossa navicularis in 26%, pendulous urethra in 14%, and bulbopendulous urethra in 60%. Urethral balloon dilatation was done on 100 men with a median number of dilatations per patient to be 2 (IQR 1–3). Eleven men underwent DVIU with median of 1 urethrotomy per patient (IQR 1–1.5). CIC was performed by 51 (46%) men with 16 (31%) of this group also using intraurethral clobetasol. Overall, 94 men (84%) could avoid invasive surgery. Eighteen men failed conservative management, of which 16 underwent urethral reconstruction. These men ($n = 18$) were more likely to have a history of UTI ($P = 0.04$), urosepsis ($P = 0.03$), acute urinary retention ($P < 0.001$) and more likely to perform CIC ($P = 0.01$).

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