

SURGICAL REPAIR OF COMPLEX RECTO-URETHRAL FISTULA WITH THE PRESERVATION OF URINARY AND BOWEL FUNCTION

Hypothesis / aims of study

Recto-urethral fistula (RUF) developing in prostate cancer patients is a serious and challenging problem. It is considered a complex fistula because it develops either after radical prostatectomy, radiotherapy, cryotherapy or combination therapy. In most of these conditions, the fistula size is usually large and the healing power of the local tissues is poor as well. Faecal and urinary diversions are usually done prior to fistula repair. If the fistula heals, the fecal and urinary diversion can be reversed.⁽¹⁾ Achieving a high fistula closure rate together with normal postoperative urinary and bowel function is really a great challenge.⁽²⁾

The primary objective of this study is to evaluate the efficacy and safety of gracilis muscle interposition in the management of complex RUF. The secondary objective is to study the urinary and fecal outcomes after this kind of repair.

Study design, materials and methods

After Institutional Review Board approval, a retrospective chart review of patients who underwent a gracilis muscle interposition for RUF developing after treatment of prostate cancer was done. A one-page questionnaire was then mailed to all patients to assess the urinary and fecal outcomes. The questionnaire included Urinary Distress Inventory (UDI-6), Visual Analogue Scale (VAS) for patient satisfaction, VAS for patient rating of operative success and the AUA Quality Of Life (QOL) score.

Results

Between May 1996 and July 2006, 24 patients with RUF developing after treatment of prostate cancer underwent gracilis muscle interposition. This is the largest reported series of RUF repair using this technique. The mean age was 68.5 years (range: 52-85). The etiology included radical prostatectomy in 8, radical prostatectomy and radiotherapy in 8, external beam radiation and brachytherapy in 4, external beam radiation alone in 3, and cryotherapy in 2. The main presenting symptoms were pneumaturia, fecaluria, and urine per rectum. All patients had successful fistula closure. The mean operative time was 160 minutes (range: 110-300). Mean hospital stay was 5.3 days (range: 2-9). Complications included cellulites in 2, bladder neck contracture in 2, thigh pain in 1, and wound infection in 1.

Regarding the postoperative urinary outcome, 18 patients (75%) were continent, 6 of them did so after artificial urinary sphincter implantation. Three patients (12.5%) were totally incontinent and lost follow up. The remaining 3 patients had devastated urinary outlet; 2 had permanent suprapubic tube and 1 underwent Indiana pouch.

For the postoperative fecal outcome, 19 patients (79.2%) had fecal continence with normal bowel habit. Two patients (8.3%) developed fecal incontinence which was resolved with neuromodulation in one and artificial sphincter in the other. Three patients (12.5%) required permanent colostomy due to devastated fecal outlet.

Seventeen patients replied the mailed questionnaire (70.8% response rate) that showed a mean UDI-6 of 41.1 (Table 1), mean VAS for patient satisfaction of 70.6%, mean VAS for patient rating about operative success of 73.2% and mean AUA-QoL score of 3.1 (ranged from 0; delighted to 6; terrible).

Table 1: UDI-6 (Urinary Distress Index)

Symptom	%
1- Frequent urination	49
2- Urine leakage related to the feeling of urgency	51
3- Urine leakage related to physical activity, coughing, or sneezing	31
4- Small amount of urine leakage (drops)	42
5- Difficulty emptying your bladder	40
6- Pain or discomfort in the lower abdominal or genital area	41
Total mean score	41.1

The predisposing factors for bad urinary and fecal outcomes were: large fistula size > 2cm, radical prostatectomy followed by external beam radiation, and cryotherapy.

Interpretation of results

This is the largest reported series on patients with RUF developing after treatment of prostate cancer and had the same technique of fistula repair. The collaboration of urologic and colorectal surgeons led to the achievement of 100% fistula closure. However, the postoperative urinary and fecal continence rate was not so high due to other local factors.

Concluding message

Gracilis muscle transposition is an excellent procedure for treatment of RUF in patients previously treated for prostate cancer. The collaboration of colorectal and urologic surgeons is necessary to optimize results.

References

1. Journal of Gastrointestinal Surgery 2004; 9 (4): 461-466.
2. Journal of Urology, June 2005; 1953-7.

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HUMAN SUBJECTS: This study was approved by the Local Institutional Review Board in Cleveland Clinic Florida and followed the Declaration of Helsinki Informed consent was not obtained from the patients.