

SURGICAL REPAIR OF SIMPLE AND COMPLICATED VESICO- AND URETHROVAGINAL FISTULAE

Hypothesis / aims of study

Traumatic vesicovaginal and urethrovaginal fistulae in the developed world are relatively uncommon but impose great psychological and physical burden to patients when they occur. We describe our experience with repair of these fistulae. We also aimed to assess the results of complicated urinary tract fistulae.

Study design, materials and methods

Between January 1986 and February 2006, 57 women with vesicovaginal and/or urethrovaginal fistulae underwent surgical repair. After Institutional Ethics Board approval was received, patient charts were retrospectively reviewed to assess etiology, previous repair, cure rate, complications, and whether or not litigation was undertaken by the patient. All patients underwent a standard preoperative evaluation that included history, physical exam, and cystoscopy. Voiding cystourethrography was done to document vesicovaginal fistulae. Patients who were suspected of having an upper urinary tract injury or ureterovaginal fistulae had additional studies performed such as intravenous pyelography and retrograde pyelogram, or CT urography. All fistulae were closed in multiple layers. The surgical approach was determined by anatomic and causative factors. The surgical approach used was transabdominal, transvaginal, or a combination of the two. When appropriate, tissue interposition was used to fortify the repair. The postoperative protocol included insertion of a suprapubic catheter in all patients as well as a cystogram prior to catheter removal. Complicated fistulae included those of large size (>3-5 cm), with previous attempt at closure, with prior radiation, associated with malignancy, in compromised operative fields, and that involve the trigone, bladder neck, and/or urethra (1). Success was determined by cystography and clinical follow-up.

Results

A total of 57 patients underwent vesicovaginal (43) and urethrovaginal (14) fistula repair. 49 (86%) of fistulae were complicated. In 27 patients (47.4%), 1 or more previous fistula repairs had failed and the mean time after repair until the repair at our institution was 9.1 months. Mean age at presentation was 45.46 years (range 24-81). Patients' past medical history included smoking (35.1%), previous pelvic malignancy (15.8%), radiation (7.0%), and diabetes (5.3%). The most common etiologies of the fistula were hysterectomy (52.6%), incontinence procedures (10.5%), Caesarian section (8.8%), and forceps delivery (7.0%). Location of the vesicovaginal fistulas was posterior to the trigone in 26 patients (61.9%), the trigone in 10 patients (23.8%), and bladder neck in 6 patients (14.3%). Mean size of the vesicovaginal fistulae was 8.64 mm and that of the urethrovaginal fistulae was 8.71 mm.

Of the vesicovaginal fistulae, 38.1% were repaired via a transabdominal approach, 59.5% through a transvaginal approach, and 2.4% from a combined approach. Of the urethrovaginal fistulae, 92.9% of cases were repaired transvaginally and 7.1% combined. All fistulae were closed in multiple layers. 23/26 of the transabdominal vesicovaginal fistulae repairs involved tissue interposition with peritoneal or omental flaps. Six of the 14 urethrovaginal fistula repairs made use of Martius (5) or gracilis (1) flaps. Mean duration of hospital stay was 6.14 days.

Overall success rate for fistula closure was 98.2%. All of the vesicovaginal fistula repairs were successful at first attempt and 13/14 (92.9%) of urethrovaginal fistula repairs were successful at first attempt. The failure was a complicated fistula. There was no difference in the closure rate between the complicated and simple fistulae.

The most common long-term complications experienced by patients were urgency (19.3%), urge incontinence (19.3%), frequency (17.5%), and stress incontinence (15.8%). Mean follow-up time was 25.78 months. Ten patients (17.5%) sought litigation from the original treating surgeon and/or hospital.

Interpretation of results

With adherence to classical principles of fistula repair, complicated fistulae of various etiologies can be repaired successfully.

Concluding message

Both simple and complicated fistulae can be repaired successfully. Familiarity with multiple approaches may be necessary. Despite success in closure patients may still experience lower urinary tract symptoms long term.

Reference

3rd International Consultation on Urinary Incontinence, 2005; pp. 1297-1370

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