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Suprapubic catheterisation with urethral closure (the Feneley procedure) in spinal cord injured men

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Three male spinal cord injured patients who underwent suprapubic catheterisation with urethral closure are reported. Although the procedure is well established in women, and has been mainly used in patients with multiple sclerosis, this simple procedure is also possible in men, and worth considering in difficult situations where continence has been impossible to achieve by more conventional means.

Keywords: Suprapubic catheterisation; urethral closure; spinal cord injury; the Feneley procedure

Introduction

The management of female incontinence by suprapubic catheterisation with urethral closure was first described by Feneley in 1983.[1] He reported a series of 32 women, mainly with multiple sclerosis, in whom long term urethral catheterisation had been unsuccessful in maintaining continence. A suprapubic catheter was required when leakage of urine around the catheter or spontaneous extrusion of the catheter occurred. However, in 24 patients, urethral leakage continued and therefore urethral closure was performed. This proved effective in 19 patients but of the remaining five patients, four had persistent vesico-vaginal fistulae.

A further paper from his department[2] reviewed the use of the 'Feneley' procedure in 50 patients including three males, two of whom had multiple sclerosis and one an unspecified neurological disease.

A very recent paper,[3] again from Feneley's group, reporting on the long term follow-up of this procedure in females with multiple sclerosis, commented that although revision surgery was often necessary to achieve continence, 19 of a series of 50 patients available for follow-up stated that urethral closure had made a significant improvement to their quality of life.

The Feneley procedure has not been reported previously in spinal cord injured men. We report its successful use in three such patients.

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Case reports

Case one

A 64 year old man sustained a T1 motor-complete, spinal cord injury. Initially his bladder was drained by an indwelling urethral catheter but, following transurethral resection of the prostate and distal sphincterotomy, he voided well. Four years later he elected to have an indwelling urethral catheter and this was satisfactory for 2 years. When urine was found bypassing the catheter, a suprapubic catheter was inserted but he continued to leak per urethram and an incontinence pad was required.

Urethral closure was performed through a perineal incision. The bulbar urethra was mobilised and opened transversely. Both proximal and distal ends were oversewn with O polygycolic acid (PGA) suture. Unfortunately the suprapubic catheter blocked 4 weeks post-operatively and he began to leak urine through the urethra. The perineal wound broke down but healed spontaneously. Six weeks later the urethra was transected and oversewn with 3/O PGA suture, following which healing was uneventful. He had no further urinary leakage until his death one year later due to a perforated duodenal ulcer.

Case 2

A 60 year old C6 tetraplegic man injured 36 years previously presented with a squamous carcinoma of the anal canal. He managed his bladder by condom drainage having previously had three distal sphincterotomies and a bladder neck incision.

He underwent an abdomino-perineal excision of the

rectum with an end colostomy. The operation was technically difficult due to his obesity and narrow pelvis, and the left ureter was inadvertently damaged and had to be reimplanted into the bladder. He therefore had a suprapubic catheter inserted but leaked significant volumes of urine per urethram. He found great difficulty in wearing a condom sheath because his penis was very retractile.

Perineal closure of the bulbar urethra was therefore undertaken. The urethra was mobilised, transected and both ends oversewn with 3/O PGA sutures. There was no leakage urethrally or via the perineum either immediately or following radiotherapy which he received for his anal carcinoma.

Case 3

A 22 year old man jumped off a bridge whilst in a psychotic state. In addition to sustaining fractures of L1 and L2 with a complete paraplegia below L4, he had a perineal disruption and pelvic diastasis. He required an immediate defunctioning colostomy and suprapubic catheter. Urethroscopy showed a bruised but intact urethra. The loop colostomy was converted to an end colostomy and he was subsequently commenced on intermittent self-catheterisation but leaked about 200 mls of urine daily. An indwelling urethral catheter was inserted but he developed an acquired hypospadias due to traction from the catheter.

Video-urodynamics showed an acontractile bladder with low compliance and small capacity. He underwent a clam cystoplasty and his bladder capacity increased from 150 to 500 mls. However he still continued to suffer stress incontinence, being wet during the day though dry at night.

A temporary suprapubic catheter was inserted and a distal urethroplasty performed. Following this he resumed the use of his condom sheath and performed self catheterisation once daily. Six months later he had difficulty in retaining the condoms and he reverted to using an indwelling urethral catheter. However he had urine bypassing the catheter and the hypospadias repair broke down. At this point a suprapubic catheter was reinserted and the bulbar urethra was transected and oversewn. Following this he became dry for the first time in six years.

Discussion

The three patients described had undergone urological surgery prior to having their urethral closure. Two of the patients had had previous bladder outlet surgery to enable them to continue on condom sheath drainage and this is the likely reason why suprapubic catheterisation alone did not render them dry. To close the urethra appeared to be a simple and sensible option, particularly considering that they were both aged 60 or over. We were more reluctant to perform the procedure in the younger man but he had already undergone several operations in an attempt to make him continent. He was greatly relieved following closure of his urethra, to be dry for the first time since his injury.

With respect to the suprapubic catheter, should the catheter be removed or fall out, replacing it is straightforward, but should be done as soon as possible, as the established track can close within a few days. If the catheter falls out within the first two weeks of insertion and the track is not mature, differential movement of the tissue planes may obstruct the reinsertion of a new catheter. For this reason, we normally leave the the first catheter in place for 6 weeks before the first change. Although we are guarded in advising such a seemingly drastic step as urethral closure in male spinal cord injured patients, we believe it has a role in selected patients. It is a simple procedure, avoids the major surgery involved in supravesical urinary diversion such as an ileal conduit, and appears to have a high success rate, at least in the short term.

References

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