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## EFFICACY AND SAFETY OF ARTIFICIAL URINARY SPHINCTER AMS800 IN PATIENTS WITH NEUROGENIC LOWER URINARY TRACT DYSFUNCTION

Aims of Study: In patients with neurogenic lower urinary tract dysfunction and intractable severe urinary incontinence, implantation of an artificial sphincter is a possible treatment. It offers the possibility of spontaneous voiding in some of these patients, and does not preclude intermittent catheterization in others. It is yet unclear, however, whether the outcome of this treatment is effective on the long term, in particular because mechanical failures may be more pronounced in wheelchair-bound patients. This study reviews the results over a 12-year period for this intervention in patients who mostly had a condition of traumatic spinal cord injury.

Patients and methods: Between 1986 and 1998 AMS800 artificial urinary sphincters were implanted in 25 incontinent patients (24 men, one woman) with neurogenic lower urinary tract dysfunction. Twenty-two records were available for review, three records (men) were substantially incomplete. The age of the patients at implantation was 18-77 years (mean 47 years). The patients' conditions were spinal cord injury (9), pelvic fracture and urethral rupture (8), myelomeningocele (3), and pelvic surgery (2). No previous incontinence surgery had been performed in these patients. The cuff was placed around the bladder neck in seven patients and at the bulbous urethra in 15. Cuff pressures of 61-70 cm $H_2O$ or 71-80 cm $H_2O$ were used in each group.

Results: No severe intra-operative complications were observed. Continence was achieved in 17 patients. In the five patients who remained incontinent, the sphincter was explanted and they were transferred to penile sheaths. After the implantation the rate of recurrent urinary tract infections was reduced from 41% to 14%, and 12 patients were free of infection. Fifteen revision procedures were necessary for mechanical failures and 16 for clinical reasons in 16 patients. Seven patients had one revision, five had two revisions, and four patients had three or more revisions. Two thirds of the revisions occurred within the first year after implantation The range of the interval between the implantation and the first revision was 2 months to 5.8 years. In nine patients the sphincter had to be explanted, mainly due to cuff erosion or infection

Conclusion: The implantation of an AMS800 artificial sphincter is a safe and reliable treatment for neurogenic incontinence in properly selected patients. Continence is restored after implantation to a satisfactory level. The sphincter-related complication rate appears acceptable, but nevertheless a close long-term surveillance is necessary. Despite all precautions, a group of patients remains with a high risk for infection or erosion of the cuff, probably due to adverse anatomical circumstances in the perineal region. Long-term surveillance of neuropathic patients with an artificial sphincter is necessary also to watch possible detoriation of the upper urinary tract, incomplete bladder emptying, and reductions of bladder capacity and of detrusor compliance.