

FUNCTIONAL OUTCOMES OF ROBOT-ASSISTED LAPAROSCOPIC ARTIFICIAL URINARY SPHINCTER IMPLANTATION AMS 800™ IN MALE NEUROLOGICAL PATIENTS WITH STRESS URINARY INCONTINENCE

Hypothesis / aims of study

Robot-assisted laparoscopic artificial urinary sphincter (AUS) implantation (AMS 800™) has been reported to be technically feasible. Our aim was to report the functional outcomes of robot-assisted laparoscopic AUS implantation (AMS 800™) in male neurological patients with stress urinary incontinence (SUI) due to sphincter deficiency.

Study design, materials and methods

A prospective study included all consecutive male neurological patients with SUI due to sphincter deficiency and implanted with an AUS (AMS 800™) using a robot-assisted laparoscopic approach since 2011. Intra and early postoperative complications were reported according to Clavien's classification. Patients were followed-up at 1 month, 6 months, 1 year and annually thereafter. Continence (defined as no need for pads), explantation and revision rates were reported

Results

Overall 13 men were included, mean age 43.3 years $\pm$ 1.08 (range 24-61): 11 were spinal cord injured and 2 had a spina bifida. The patients' baseline characteristics and type of devices implanted are shown in table 1. The cuff was placed in a periprostatic position in all patients. No intraoperative complications occurred. Early postoperative complications were reported in two patients and included 1 hematoma (Clavien grade I) and 1 orchitis (Clavien grade II). The mean follow-up was 14.4 $\pm$ 8.1 months (range 1-50). At last follow up, 76.9% of patients were continent and all devices were in place and activated. None patients underwent revision or explantation of the device.

Interpretation of results

Periprostatic cuff placement is necessary in men with neurogenic stress urinary incontinence owing to: (i) the frequent need for intermittent self-catheterization that increases the incidence of cuff erosion if the cuff is bulbar; (ii) pressure applied to bulbar urethra in wheelchair-bound patients; (iii) open bladder neck with sacral cord lesions with urine-filled prostatic urethra which is a potential source of infection with a bulbar cuff; and (iv) future endoscopic treatment risks erosion of a bulbar cuff. Our results are encouraging compared to those in the literature (1,2) and need to be confirmed by a longer follow-up.

Concluding message

The results obtained after AUS implantation for treating SUI due to sphincter deficiency among male neurological patients are promising. Further studies comparing robot-assisted laparoscopic approach to open approach are needed.

Table 1. Patients' baseline characteristics and devices implanted

	N (%)
Post traumatic spinal cord injury	11 (84.6%)
- ASIA A	5 (45.4%)
- ASIA B	2 (18.2%)
- ASIA D	2 (18.2%)
- ASIA E	2 (18.2%)
Spina bifida	2 (15.4%)
Wheel-chaired	8 (61.6%)
Walking	5 (38.4%)
Voiding mode: self-intermittent catheterization	13 (100%)
Concomitant urological treatment	
Antimuscarinics	6 (46.2%)
Intradetrusor botulinum toxin A injections	5 (38.4%)
Characteristics of the devices	
Cuff position: peri-prostatic	13 (100%)
Cuff Size	
- 6.5 cm	2 (15.4%)
- 7.5 cm	5 (38.4%)
- 8 cm	4 (30.8%)
- 9 cm	2 (15.4%)
Balloon size: 61-70 cmH ₂ O	13 (100%)
Pump location:	
- Right	9 (69.2%)
- Left	4 (30.8%)

References

1. Bersch U, Göcking K, Pannek J. The artificial urinary sphincter in patients with spinal cord lesion: description of a modified technique and clinical results. Eur Urol. 2009 Mar;55(3):687-93.
2. Lai HH, Hsu EI, Teh BS, et al. 13 years of experience with artificial urinary sphincter implantation at Baylor College of Medicine. J Urol. 2007 Mar;177(3):1021-5.

Disclosures

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