

## LONG-TERM OUTCOMES OF ARTIFICIAL URINARY SPHINCTER IN MALE PATIENTS WITH SPINA BIFIDA

### Hypothesis / aims of study

To report the long-term functional outcomes of artificial urinary sphincter (AUS) implantation in a population of male patients with spinal dysraphism suffering from stress urinary incontinence related to intrinsic sphincter insufficiency.

### Study design, materials and methods

Between 1982 and 2014, 34 spina bifida males patients with intrinsic sphincter deficiency underwent implantation of an artificial urinary sphincter. Survival rates of the device without needing explantation or revision were estimated using the Kaplan–Meier method. Survival rates of the device according to method of bladder emptying (Spontaneous voiding vs. Clean-Intermittent catheterisation) were also reported. Reoperation was defined as either revision or explantation of the AUS device. Continence status was categorized as follows: complete continence (no pads), improved continence (patient's subjective assessment), unchanged or worsened.

### Results

There were 42 artificial sphincters implanted in 34 patients. The median age at first implantation was 19 years (IQR 15–29). The median follow-up was 21 years (IQR 10-25). The AUS cuff was placed at the bladder neck and at bulbar urethra in 11 and 23 patients respectively. At last follow-up, 100% of patients had undergone at least one reoperation. Median time to first reoperation was 9.8 years. Nineteen AUS explantations were needed in 16 patients (47%). Out of these 16 patients, 6 patients had a new AUS implanted and 10 remained without AUS at last follow-up (29% of the whole cohort). At 1 year, complete continence was achieved in 14 patients (42.4%), continence was improved in 12 patients (36.4%), unchanged in three patients (9.1%) and worsened in four patients (12.1%). Survival rates without AUS revision or explantation were 43%, 23%, 5% and 0% at 10, 15, 20 and 25 years respectively. Survival rates, without AUS explantation were 77%, 59%, 52%, 45% at 10, 15, 20 and 25 years respectively. When considering the type of bladder emptying, median time without AUS revision or explantation were longer in patients voiding spontaneously than in patients who performed clean-intermittent catheterisation (12.9 years vs 4.9 years;  $p < 0.001$ ). Patients with augmentation cystoplasty (regardless of its timing) had shorter device survival (median: 4.4 vs. 15 years;  $p = 0.001$ ). No other parameters were found to impact device survival. At the last follow-up visit 27% of patients were fully continent and 35% had improved incontinence. When considering only patients with an AUS in place at last follow-up, 87.5% had improved or complete continence.

### Interpretation of results

In the present series, continence was improved or complete in 62% of patients at last follow-up but 100% of patients had undergone at least one reoperation (explantation or revision) at last follow-up. Median time to first reoperation was 9.8 years.

### Concluding message

AUS in male patients with spina bifida offered acceptable long-term functional outcomes but at the cost of a high reoperation rate.

### Disclosures

**Funding:** no **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Rennes **Helsinki:** Yes **Informed Consent:** Yes