

## OUTCOMES AND COMPLICATIONS AFTER SURGICAL REVISION AND SECONDARY IMPLANTATION OF AN ARTIFICIAL URINARY SPHINCTER

### Hypothesis / aims of study

The artificial urinary sphincter (AUS) provide a high level of success, however complications may occur and in any big series are unavoidable. Thus, the necessity for secondary and tertiary procedures can increase with time, with greater reoperation rates appearing with longer follow-up. Most patients can benefit from secondary surgeries consisting of revision of the implanted components or secondary implantation after previous explants. We review the outcomes in terms of continence and morbidity depending on the management of the complications by revision or explant and secondary AUS implantation

### Study design, materials and methods

From 1990 to 2010, 265 patients underwent an artificial sphincter implantation due to different conditions in our department. We review the complications and the troubleshooting in 238 patients with minimum follow up of 1.5 years. Forty-one cases underwent a surgical revision due to device malfunction or urethral atrophy. Eight cases had a second sphincter implantation after an explant due to urethral erosion or infection. The outcome and complications appeared after the initial surgery is compared with those happening after a revision or a second implantation.

### Results

The complication rate in the initial group was 26%, in the reviewed cases 34% whereas in the secondary implants was 25%. Artificial urinary sphincter revision cases had threefold higher future urethral atrophy compared to initial cases ( $p=0.035$ , 19.5% vs 7.6%, RR 2.96). The comparison with the rates of other complications and continence outcome were not statistically meaningful between initial and reviewed cases, and between initial and secondary implanted sphincters.

### Interpretation of results

The complication rate of the patients with an AUS implanted increases with time. When this does occur, the majority of patients in our series could be salvaged by secondary surgical procedures. Our study suggests that outcome in continence rate after surgical revision or secondary implantation is similar to those of initial AUS implantation. However the risk of developing further urethral atrophy is three times higher after revision surgeries, and this information should be transmitted in the patient's informed consent, especially in cases of partial incontinence prior to decide to underwent a second surgery.

### Concluding message

The outcome of the secondary implants or reviews after an AUS failure in terms of continence and complications are similar than after the primary implants, except in the case of urethral atrophy that can be present in a higher rate after a revision surgery of an already implanted AUS.

### Disclosures

**Funding:** None **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** This is a retrospective review after a surgery included in our standard protocol of treatment of this condition, and considered as a established and a gold standard procedure by the European Ass of Urology Guidelines. **Helsinki:** Yes **Informed Consent:** Yes