

Artificial urinary sphincter implantation: focus on iatrogenic complications



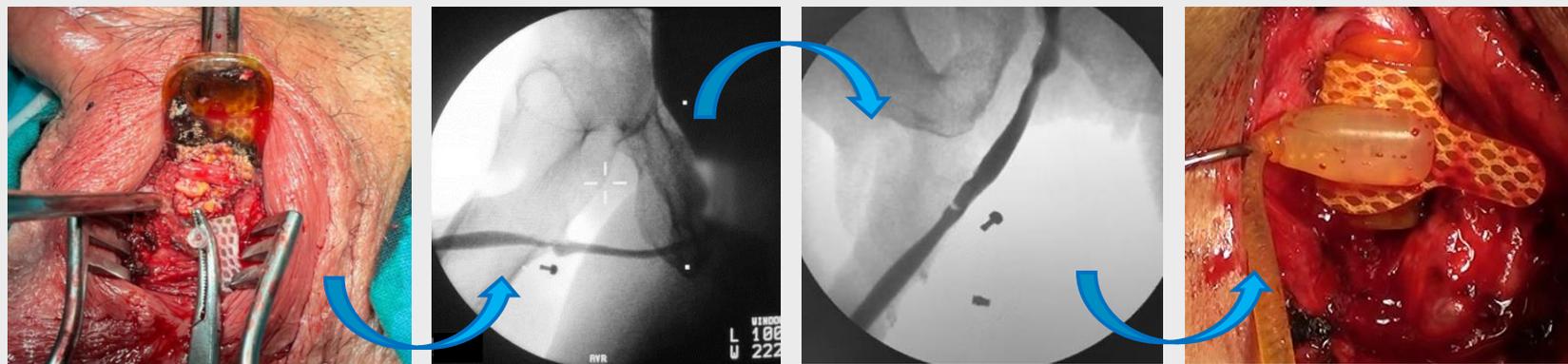
Hypothesis / aims of study. Artificial urinary sphincter (AUS) implantation is the mainstay in the treatment of stress urinary incontinence in men, with thousands of implantations performed each year. Despite the relatively high prevalence of complications, the incidence and risk factors of iatrogenic complications have not been sufficiently investigated. The aim of this study was to investigate iatrogenic complications of AUS implantation.

Study design, materials and methods. We retrospectively reviewed the outcomes of AUS implantation in 67 consecutive male patients from 2004 to 2024 at a single center.

Results. Median follow-up time was 60.4 months (IQR 11.2-114.0). Twenty-four (35.8%) patients had developed 32 complications: 5 (7.5%) Clavien-Dindo I-II and 27 (92.5%) Clavien-Dindo IIIa-IIIb. Iatrogenic complications were observed in 5 cases (7.5% of all AUS implantations, 15.6% of all complications, and 31.3% of complications

All iatrogenic complications required revision. AUS explantation was performed in 3 cases in fragile patients with advanced comorbidities and age more than 77 years. In two cases AUS function was restored, the age of both patients was less than 70 years. The increased risk of iatrogenic complications was noted in case of 3.5 cm cuff use (OR 4.2 (95CI 1,96-11,31), $p=0.012$)

Interpretation of results. With a median follow-up of more than 5 years, iatrogenic complications occurred in 7.5% of all implantations and about one third of the complications requiring revision. The most frequent iatrogenic complication was cuff erosion. The cause of iatrogenic complications is a lack of understanding of AUS design and functioning by non-urologic medical specialists providing care to patients. In elderly and frail patients, AUS removal is most commonly performed. An increased risk of iatrogenic complications is noted in patients with a 3.5 cuff.



requiring revision). Bladder catheterization without prior AUS deactivation was performed in 4 patients, which resulted in cuff erosion. In one patient, an erroneous balloon puncture was performed. The median patient age at development of iatrogenic complication was 77.8 years (IQR 68.7-84.6).

Concluding message. Iatrogenic complications of AMS make up a significant part of the complications requiring revision. Such complications in elderly and frail patients often lead to device loss. The problem of AUS iatrogenic complications requires special attention and close investigation.