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European Association of Urology



## Letter to the Editor

**Re: Camille Girard, Mehdi Al-Akri, Matthieu Durand, et al. Efficacy, Safety, and Reoperation-free Survival of Artificial Urinary Sphincter in Non-neurological Male Patients over 75 Years of Age. *Eur Urol Open Sci* 2023;53:23–30**

The large-volume multicenter study by Girard et al. [1] offers further confirmation of the safe and effective use of an artificial urinary sphincter (AUS) in men of advanced age experiencing moderate to severe stress urinary incontinence (SUI). The authors observed that early postoperative continence and reoperation-free survival were similar between groups aged <75 yr and  $\geq 75$  yr; however, the rate of device explantation was higher in the group aged  $\geq 75$  yr. While age was not a significant risk factor on multivariate analysis, a history of radiation therapy was a predictor of infection or erosion. We believe that an important factor not captured in the current study or previous series looking at this age demographic is the association of advanced age with hypogonadism, which has been linked to higher rates of cuff erosion.

An important factor to consider when evaluating AUS outcomes in men of advanced age is the role of serum testosterone and history of androgen deprivation therapy (ADT) on urethral tissue quality and the risk of urethral complications, namely erosion, in this group. It is well established from longitudinal studies that there is a slow decline in total serum testosterone with increasing age. In addition, the ability of luteinizing hormone to stimulate testicular testosterone production decreases with increasing age [2].

The importance of testosterone levels in men undergoing AUS placement has been evaluated in two separate studies. Hofer et al. [3] reported on 53 consecutive patients who were evaluated for low serum testosterone (defined as <280 ng/dL), of whom 56.6% met the criterion. The authors found that among all men with AUS erosion, 90% had low serum testosterone, whereas for the group with normal serum testosterone the AUS erosion rate was 36.4%. Interestingly, low serum testosterone was the only risk factor for erosion in a multivariable model that included prior radiation therapy. In a similar analysis of 42 men with cuff erosion, the median time to cuff erosion was 7.1 mo for the 71.4% of patients with low serum testosterone (<280 ng/dl).

These results may, at least in part, help to explain why there is a greater risk of urethral atrophy and cuff-related complications for men of advanced age [4]. However, it is worth mentioning that these were small retrospective series and therefore the level of evidence for this attribution remains low.

In the study by Chung et al. [5], current ADT use did not differ between the study groups (age <70 vs  $\geq 70$  yr) and a multivariate logistic regression model only identified radiation therapy as a significant predictor of AUS revision. Interestingly, in a retrospective series of 50 men who had received >6 mo of ADT within 2 yr before AUS placement, multivariable survival analysis failed to show any effect of ADT on AUS explantation for infection/erosion, replacement for mechanical failure, or urethral atrophy [6]. However, it is worth noting that testosterone levels in these men were not reported or factored into the analysis.

AUS remains the gold standard for SUI treatment in men of all ages. However, additional prospective studies are needed to truly assess the role of testosterone in the risk of AUS-related complications. Appropriate preoperative counseling remains essential for patients so that they understand the multitude of factors predictive of surgical outcomes.

**Conflicts of interest:** The authors have nothing to disclose.

## References

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