

DIABETIC PATIENTS UNDERGOING ARTIFICIAL URINARY SPHINCTER PLACEMENT HAVE MORE COMPLICATIONS AND WORSE CONTINENCE OUTCOMES

Hypothesis / aims of study

The artificial urinary sphincter (AUS) is the leading treatment for men with post-prostatectomy incontinence, with patient satisfaction often exceeding 80%, and pad use decreasing to one pad per day. Five-year Kaplan-Meier rates of non-reoperation are 50-79%, and the potential complications include cuff erosion, infection, and mechanical failure [1]. The role and magnitude of the effect diabetes mellitus has on complication rates has not been primarily studied. A recent study evaluating AUS outcomes in irradiated patients reported that there were poorer outcomes in diabetic patients, including decreased continence and higher complication rates [2]. The purpose of our study was to evaluate the impact that diabetes has on continence and complications following AUS placement.

Study design, materials and methods

A retrospective chart review analyzed the records of 134 patients undergoing AUS placement for post-prostatectomy incontinence. Fourteen of these patients had the diagnosis of diabetes mellitus. Demographics, baseline pad use, post-AUS pad use, frequency and types of complications were collected. Complications for the purpose of this study included mechanical failure, persistent or recurrent incontinence, erosion, or infection leading to reoperation. Cuff atrophy and other situations not stated here were not considered complications. Pre-and post-AUS pad use data was available for all patients included in this study. Mean values are reported, and statistical analysis was performed with the two sample T-test and Fisher's test.

Results

Non-diabetic patients had greater improvement in pad use after AUS compared to diabetic patients (5 pads vs 3 pads, $p=0.0163$, statistical power=75%). The average number of complications was higher in the diabetic group (1 vs 0.317, $p=0.0007$), and the percent of patients experiencing complications was higher in the diabetic group (50% vs 22.5%, $p=.0458$). Of the complications examined, all occurred more frequently in diabetics, but erosion was the most increased in incidence (35% vs 6.67%, $p=.0047$). Characteristics were similar between the groups, including age at first AUS (69 vs 66, $p=.1216$), pre-operative daily pad use (5 vs 5, $p=1$), and time from radical prostatectomy to AUS (44 months vs 37 months, $p=.5215$). Length of follow up was shorter for non-diabetic patients (51 months vs 76 months, $p=.0781$).

Interpretation of results

As may be expected, the diabetic patients had less improvement in their urinary incontinence as well as an increased rate of complications. The infection rate in diabetics was higher (21.43% vs 6.67%, $p=0.0908$), but this did not reach statistical significance. Despite these results, the complication rate among diabetics is still a reasonable risk to the patient when considering the improved quality of life many of these patients experience after AUS.

Concluding message

Diabetic patients are at increased risk of complications and lower success of AUS, but the outcomes remain a notable improvement from baseline. Additional studies on diabetic patient satisfaction after AUS would be useful in order to guide patient counseling prior to surgery.

References

1. James MH, Mccammon KA. Artificial urinary sphincter for post-prostatectomy incontinence: A review. *Int J Urol*. 2014.
2. Sathianathan NJ, Mcguigan SM, Moon DA. Outcomes of artificial urinary sphincter implantation in the irradiated patient. *BJU Int*. 2014;113(4):636-41.

Disclosures

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