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COMPARISON OF TRANSURETHRAL COLLAGEN IMPLANT AND NEW PERINEAL BONE-ANCHORED MALE SLING IN THE TREATMENT OF POST-PROSTATECTOMY INCONTINENCE - FIRST REPORT

Hypothesis / aims of study

Surgical treatment of incontinence initially included collagen injection and placement of artificial urinary sphincter (AUS). Although, collagen injection was suggested as the first line therapy for post-prostatectomy incontinence, AUS is still considered the gold standard. Recently, perineal bone-anchored male sling has emerged as an alternative therapeutic option with comparable results. We compared the efficacy of collagen injection and bone-anchored male sling in the treatment of post-prostatectomy incontinence. To our knowledge this is the first report comparing two treatment modalities.

Study design, materials and methods

A total of 71 men underwent transurethral collagen injection (group 1, n:34) or perineal bone-anchored male sling (group 2, n:37) using the InVance™ Male Sling System (American Medical Systems, Minnetonka, MN, USA). Etiology of incontinence in group 1 was radical prostatectomy (RP) in 82%, external radiation therapy in 3% and a combination of these two in 15% of the patients. Of the patients in group 2, 78% had RP and 22% had combination treatment. Mean age in group 1 was 66.7 years (range 51-78) whereas, it was 68.8 years (range 50-81) in group 2. Mean number of injections in group 1 was 2.17 (range 1-5) with a mean cumulative volume of 8.8ml (2-34 ml) collagen injected. Patient characteristics, degree and duration of incontinence were noted preoperatively. The efficacy of each procedure was compared with respect to duration of success between two groups.

Results

Patients in both groups had mild-to-moderate incontinence requiring a mean of 4.5 and 3.7 (1-10) pads per day, respectively. At a mean follow-up of 12 months (range 3-31), 5(15%) of 34 patients treated with collagen injections were dry. Five (15%) patients showed improvement (50% or more) compared prior to surgery whereas 24 (70%) failed the procedure. In group 2, 15 (41%) patients were cured and 13 (35%) improved after a mean period of 16 months. Success rates of the two procedures were 30% and 76% in groups 1 and 2, respectively. There was a significant difference between two groups ($p<0.001$). Similarly, mean duration of success in group 1 was 9 months whereas it was 16 months in group 2 ($p<0.05$). There was no difference between two groups with respect to post-operative complications, i.e. urinary retention, de novo urge/urge incontinence, infection and urethral erosion ($p<0.001$).

Interpretation of results

Only 30% of patients who underwent collagen injection for mild to moderate post-prostatectomy incontinence were cured/improved at a mean follow-up of 12 months. While 76% of patients who underwent male sling were cured/improved. It seems that male sling procedure has a higher success rate for mild to moderate post prostatectomy incontinence ($p<0.001$). Also, the success after male sling surgery lasted longer than the collagen injection.

Concluding message

Our results revealed that patients undergoing male sling placement for stress urinary incontinence are more likely to become continent and also have a much higher rate of improvement when compared to patients who are treated with collagen injectionswith mild to moderate stress urinary incontinence.. However, further studies are required to establish long-term efficacy.