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Re: Seven-year Efficacy and Safety Outcomes of Bulkamid for the Treatment of Stress Urinary Incontinence

Brosche T, Kuhn A, Lobodasch K, Sokol ER

Neurourol Urodyn 2021;40:502–8

Expert's summary:

In a retrospective review of 388/1200 patients undergoing Bulkamid injection for stress urinary incontinence (SUI) or stress-predominant mixed urinary incontinence (MUI), the authors found a 7-yr overall rate of cure or improvement of 67.1%, with statistically significant reductions in pad usage and symptoms and an improvement in quality of life. They report that postoperative complications were transient, with prolonged bladder emptying time in 15.3% of patients and urinary tract infection in 3.5%. They conclude that Bulkamid injections are an effective and safe first-line treatment option for women with SUI or stress-predominant MUI, providing durable outcomes at 7 yr.

Expert's comments:

The goal of bulking in patients with urethral incontinence is to allow for coaptation of the urethral mucosa without obstruction. In the 1970s, Solomon Berg [1] reported on the use of polytetrafluoroethylene paste. The availability of collagen and other agents renewed interest in urethral bulking because of the ease of injection. Short-term efficacy was impressive but long-term data were not. With the advent of synthetic slings, the need for bulking decreased over time.

Fast forward to the era of the mesh controversy, when medical authorities in some countries published warnings and even suspended its use, despite data heavily supporting successful outcomes and a complication rate of <5%. This led to the resurgence of bulking and claims for improved results, as in the current article: 388 (67.1%) of the patients reported feeling cured or improved (16% or 62 cured) after Bulkamid as a primary procedure, 11.1% reported no change, and 2.3% reported worsening of incontinence. Some 19.5% of the patients underwent another subsequent incontinence procedure.

In a prospective randomized comparison of tension-free vaginal tape (TVT) and Bulkamid (polyacrylamide hydrogel, PAHG) for primary SUI, patients in the TVT group experienced less urinary symptom–related distress than those in the PAHG group ($p < 0.001$) at 1 yr [2].

It is interesting to look at data in the pivotal trial for US Food and Drug Administration approval of Bulkamid [3]. At 12 mo, 46.9% (107/228) of those in the Bulkamid group showed at least a 50% reduction in both leakage and the number of daily incontinence episodes, compared to 42.7% (50/117) of the control (collagen) group.

According to Klarskov and Lose, "the bulking material may function as additional central filler volume, which increases the length of the muscle fibers and thereby the power of the urethral sphincter" [4]. The concept of improving the sphincter via cell-based therapy to regenerate the sphincter muscle has the advantage of treating the cause and not just symptoms. Long-term results after cell therapy have been disappointing. Primates with chronic injury (similar to patients) did better with CXCL12 molecules [5].

Most surgeons no longer use bulking agents for hypermobility-related SUI. Nevertheless, there are still indications for bulking agents besides the unavailability of slings. These include patients with intrinsic sphincter deficiency (ISD) after failed sling procedures, select cases with myelomeningocele, radiation-induced ISD, medically compromised patients, and frail elderly patients. Maintenance repeat injection may be acceptable in such cases.

As regards indications for primary treatment, the data and the cost do not support this.

Conflicts of interest: The author has nothing to disclose.

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Re: Single-incision Mini-slings for Stress Urinary Incontinence in Women

Abdel-Fattah M, Cooper D, Davidson T, et al.

N Engl J Med 2022;386:1230–43

Experts' summary:
In this pragmatic, noninferiority, randomized trial, Abdel-Fattah et al compared the efficacy and safety of newer single-incision mini-slings (SIMS; mainly Ajust from C.R. Bard and Altis from Coloplast) to traditional mid-urethral slings (MUS; retropubic or transobturator) in women with predominant symptoms of stress urinary incontinence. After randomization, a total of 298 patients for each group were assigned to receive SIMS or MUS in 21 UK hospitals. The authors showed that the patient-reported subjective success, assessed using the Patient Global Impression-Improvement questionnaire, was noninferior in the SIMS group in comparison to the MUS group (79.1% vs 75.6%) at 15-mo follow-up. These data remained similar in the two groups at 36-mo follow-up. The rates of mesh exposure and dyspareunia and the percentage of women who underwent further surgery for any reason were higher in the SIMS group than in the MUS group.

Experts' comments:
The use of transvaginal mesh for stress urinary incontinence (SUI) has been widely questioned in recent years, although strong evidence supporting its use has been reported [1]. The major criticisms that prompted the British government to announce a pause on the use of mesh for SUI were the lack of long-term durability and the rate of mesh-related complications. The introduction of SIMS was intended to guarantee similar cure rates with a lower complication rate in comparison with MUS. In a well-conducted review and meta-analysis, the same group [2] found no evidence of significant differences between SIMS and MUS in subjective and objective cure rates, despite a trend towards more favorable outcomes in the MUS group. Moreover, the authors failed to demonstrate that SIMS are associated with a lower complication rate in terms of vaginal tape erosion or repeat continence surgery. In this interesting and well-performed randomized trial, Mostafa et al [2] confirmed the good efficacy of SIMS at short-term follow-up, but reported a higher rate of mesh exposure requiring subsequent surgery in the SIMS group (2.5% vs 1.1%). A need for further surgery for recurrent SUI (4.3% vs 2.3%) and pain (2.5% vs 0.8%) has also been reported. In addition, dyspareunia was more common in the SIMS group.

We appreciate the authors' efforts in leading a high-quality study that will extend to 10-yr follow-up. However, in light of these latest results, the question arises as to whether it is worth continuing on in this way. Shouldn't we focus on other alternative approaches?

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

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