

## NEW MESH FIXATION TECHNIQUE IN MALE INCONTINENCE SURGERY

### Hypothesis / aims of study

In contrast to female transobturator tapes, the insertion technique in male incontinence surgery is not tension-free. A requirement for success is a primary stable fixation. With the experience of the first transobturator tape in males (AdVance<sup>®</sup>) we know that unfixed tapes can lead to loosening and treatment failures. Various techniques were developed to secure early postoperative stability like tape tunneling, crossing, or suture fixation, often with the consequence of local discomfort or pain. The second generation (AdVanceXP<sup>®</sup>) was equipped with barbed silicone hooks to prevent early dislocation. With this modification in 2010 continence rates increased from 58,6% to 90,3% after one year.<sup>1,2</sup> Other tapes (Argus<sup>®</sup>) incorporate washers at the supramuscular level. We applied alternative fixation techniques to a new male transobturator tape (DynaMesh<sup>®</sup>-PRM visible) to secure stability particularly in the early postoperative phase.

### Study design, materials and methods

The male transobturator tape (DynaMesh<sup>®</sup>-PRM visible) is made of PVDF (monofilament polyvinylidene fluoride) with integrated iron particles that provide MRI visibility. Like the AdVance<sup>®</sup> tape, the indication is mild to moderate incontinence. It was originally designed for a crossing of the slings and a suture connection in the midline. Instead, we first used vascular clips (Hem-o-lok<sup>®</sup>) to keep the tape in place outside the obturator foramen on both sides. Subsequently we used a synthetic cyanoacrylate surgical glue (Glubran<sup>®</sup> 2) to fix the tape to the lower branch of the pubic bone. For this, only a tiny amount of glue (0.5 cc) is necessary. 5 Patients (age 65 to 82) with mild to moderate stress urinary incontinence were treated with these techniques from 5/2015 to 3/2017. The insertion technique, patient reported outcomes, and complications were recorded. Moreover a MRI study was conducted to visualize the tape and the postoperative result.

### Results

In this initial study we treated 5 patients for male urinary incontinence with the DynaMesh<sup>®</sup>-PRM visible tape. Fixation was performed with Hem-o-lok<sup>®</sup> clips in one patient and with Glubran<sup>®</sup> 2 surgical glue in four patients. With both techniques, an immediate and stable fixation could be achieved. Both techniques were easily and safely feasible. All patients reported sustained social continence with a follow up of up to 20 months. No complications occurred, particularly no patient reported pain in the obturator or perineal region. Also the clinical reevaluations showed no signs of local reaction or inflammation. In the MRI studies the mesh structure, the course of the tape, and the relocation of the urethral bulb were well visualized.

### Interpretation of results

These promising initial results with application of complementary surgical methods to a new male incontinence tape facilitate this procedure and make it more reliable. The sometimes cumbersome removal of the mesh sheaths with the AdVanceXP<sup>®</sup> tape can be omitted, the extra costs and operation time are insignificant. As patient reported outcomes are paramount, we observed no inferiority of our results in comparison to the most frequently used tape (AdVance<sup>®</sup>) in this small series. In particular early failure due to tape loosening and complications were not observed. The visible mesh technology is an important step forward to illustrate the mode of action of male slings and offers the opportunity to visualize possible failures and complications.

### Concluding message

With both vascular clips and tissue glue, an immediate and stable tape fixation could be achieved with the insertion of the DynaMesh<sup>®</sup>-PRM visible tape. No complications were observed in an initial study of this novel technique in male incontinence surgery. The visualization of the mesh material in MRI studies proved to be valuable to illustrate the function of the mesh and possible failures and complications.

### References

1. Rehder P, Haab F, Cornu JN, Gozzi C, Bauer RM. Treatment of postprostatectomy male urinary incontinence with the transobturator retroluminal repositioning sling suspension: 3-year follow-up. *Eur Urol.* 2012 Jul;62(1):140-5.
2. Bauer RM, Kretschmer A, Stief CG, Füllhase C. AdVance and AdVance XP slings for the treatment of post-prostatectomy incontinence. *World J Urol.* 2015 Jan;33(1):145-50.

### Disclosures

**Funding:** None **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** Observational study **Helsinki:** Yes **Informed Consent:** Yes