

VAGINAL INTER-PUBIC PERINEORRAPHY (VIPP) FOR TREATMENT OF FEMALE STRESS URINARY INCONTINENCE: A NEW TECHNIQUE

Hypothesis / aims of study

Transvaginal suspensions have been considered as a good treatment option for women with stress urinary incontinence (SUI). However, their long-term outcome is not satisfactory. The aim of our present study is to evaluate the efficacy and durability of vaginal inter-pubic perineorrhaphy for treatment of female SUI.

Study design, materials and methods

The study included sixty-two females aged between 34-62 years and presented with type II SUI. After insertion of a urethral catheter, a rectangular anterior vaginal wall flap (4 x 2 cm) was designed, being about 1 cm from the vesico-urethral junction. Four zero non-absorbable (Ethibond, *Excel*) helical sutures were taken through the 4 corners of the flap and fixed to the peri-osteum of the pubic arch on both sides. The flap was covered by approximation of both proximal and distal vaginal edges. Physiologic filling cystometrogram and Valsava leak point pressure were routinely done pre-operatively as well as 3 and 6 months post-operatively.

Results

Urethral catheter was removed after 24 hours in all patients and none of the patients developed urine retention. The mean follow-up was 40 ± 9 months. The mean operative time was 35 ± 5 minutes. Fifty-four patients were dry through out the follow period, while four patients reported significant improvement of their continence (decreased number of pads used) and four patients were failure. None of the patients had idiopathic overactivity, however urgency was reported by 7 patients who responded to anticholinergic therapy.

Interpretation of results

There is an agreement that the connective tissue supports of the urethra, bladder and vagina extend to the arcus tendineus of the pelvic fascia on the pelvic diaphragm. There is also agreement that a "hammock" of the anterior vaginal wall tissue supports the vesical neck and urethra. The surgical objective for urethral hypermobility is to improve the support of the sphincter unit (by preventing the descent of the bladder neck) without obstruction.

In fact, the principle of VIPP is based on the normal anatomy. Normally, the perineal membrane bridges the gap between the inferior pubic rami bilaterally and the perineal body. It closes the urogenital (levator) hiatus, supports and has a sphincter-like effect at the distal vagina and contributes to continence because it is attached to periurethral striated muscles. It also provides support for the distal urethra. Therefore, the aim of VIPP as a treatment of type II SUI is to restore the distorted anatomy through re-enforcement of the perineal membrane. The anterior vaginal wall flap acts as a soft-pliable "hammock" that works only during stress. With increased intra-abdominal pressure, the flap works as a backstop against which the mid urethra will be compressed, preventing its descent outside the pelvic cavity and subsequently prevents urinary leakage with stress. The overall success rate (cure/improvement) is up to 93.5% with a mean follow up of more than 3 years. This medium-term high success rate is comparable with other anti-incontinence surgeries. The success of VIPP for treatment of SUI was evidenced by both objective and subjective assessment. Compared with retropubic suspensions or slings, VIPP has no abdominal incision with less intra-operative and post-operative morbidities. The procedure has a short operating time with early and smooth post-operative recovery and very minimal morbidity. The incidence of temporary urinary retention lasting longer than 4 weeks is 5% for retropubic and transvaginal suspensions and 8% for sling procedures. In the present study, we do not have patients who experienced urinary retention or voiding difficulty. This could be explained by the fact that there is no direct tension or dissection related to the urethra.

Most transvaginal suspensions for SUI fix the suspensory sutures over the anterior rectus fascia. Some have postulated that the rectus fascia is mobile and that this motion leads to shearing forces that may lead to pull-through of the suspensory sutures at the vaginal end. Furthermore, others believe that stitches placed laterally in this region lead to nerve entrapment and prolonged postoperative pain. In the present study, none of the patients reported long-term pelvic pain and this may be explained by the fact that the sutures with VIPP were not directly fixed to the bone rather it was taken through the periosteum.

VIPP provides a combined value for treatment of both urethral hypermobility as well as mild cases of cystocele with out adding additional dissection or surgical techniques.

Concluding message

Vaginal inter-pubic perineorrhaphy is technically simple and safe procedure and can be considered as an effective for treatment of stress urinary incontinence. The procedure has a high and maintained success rate. Absence of special mesh makes VIPP a cheap procedure.

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