

THE TRANSOBTURATOR TAPE T.O.T.® IN THE TREATMENT OF FEMALE STRESS URINARY INCONTINENCE : ANATOMICAL DANGERS

Aims of Study

The transobturator tape T.O.T.® is a new minimal invasive treatment for female stress urinary incontinence : its original route is transversal from an obturator foramen to the other. The aim of this study was to underline the anatomical dangers of this new transobturator route.

Methods

10 female anatomical subjects (body donation) not embalmed, 74 to 89 old, were the material of the study.

The T.O.T. was inserted as exposed in the first description of the procedure [1] : in gaenocologic position, with an urethral catheter, an incision is made on the anterior aspect of vagina 1 cm above the urethral meatus. A dissection with the metzembaum scissors is led transversally towards the obturator foramen on each side. A short incision is made on the thigh at the level of the urethral meatus just outside the labium majus. a special tunneler (Helical™) is introduced from to the thigh through the obturator foramen to the vaginal incision.

The T.O.T.® was placed with some variations on the level of entrance of the tunneler.

Dissection by femoral, perineal or pelvic approach was led to study the anatomical structures possibly injured.

Results

Femoral dissection : after crossing the adductor muscles, there is no vessels or nerves at the inferior border of the obturator foramen. The tape passed at the opposite side of the obturator canal, 4 cm under the obturator pedicle and its terminal branches.

Perineal dissection : The tape is on the space between the perineal membrane and the inferior aspect of the levator ani muscle. It runs above the pudendal pedicle which is protected by the fibrous pudendal canal and the ischio pubic ramus. On the middle, the tape runs between the middle third of urethra and the vaginal wall. The preliminary dissection separates and moves away each other.

Pelvic dissection : The tape is not visible. The tape is crossing behind the Santorini plexus. It passed under the ATRP and levator ani muscle. When the tunneler is entered more anteriorly, there is a danger for a superior passage and perforation of the anterior aspect of the bladder; when the tunneler is entered more posteriorly, perforation of the vagina is possible as urethral perforation.

Conclusions

The route of T.O.T.® is perineal. There is no risk to injury major vessels or nerves. Vaginal, vesical or urethral injury are possible; to avoid this risk a lateral dissection has to be performed allowing the introduction of the index finger. The index will lead the tunneler, introduced in the thigh at the level of urethral meatus to the vaginal incision.

References

[1] DELORME E. Transobturator urethral suspension : a minimally invasive procedure to treat female stress urinary incontinence. Prog. Urol., 2001, 11, 1306-1313