Pelvic Floor Digest

Surgical treatment of mixed and urge urinary incontinence in women
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In this study the Authors analyze whether the surgical replacement of uterosacral ligaments by an alloplastic tape can treat patients with mixed and urge incontinence. In particular they show that vaginal–rectal-sacral fixation (VARESA) and cervical-rectal-sacral fixation (CERESA) are able to cure and to improve the above described symptomatology in 102/135 (77%) and 24/135 (18%) of cases respectively.
In this context the Authors hypothesis is that the association between descensus uteri and urge incontinence could be caused by a defective functioning of the uterosacral ligaments and in this way they refer to the Petros' theory that points out the importance of the posterior compartment for establishing the continence function.[1]
As is known the etiology of urge incontinence is unknown an in this way it is difficult to give an interpretation of the results in the light of the surgical solution used and therefore we are obliged to start from what we can deduce from the current literature. In particular we known that a successful surgical repair of stress incontinence is associated with the cure of urgency incontinence in 50% to 85% of patients suggesting a connection between urethral afferents and the micturition reflex.[2-3]
In this sense Barrington experimentally demonstrated that running water through the urethra or distension of the proximal urethra causes contraction of the detrusor in the cat[4] and Jung showed that in the rats urethral perfusion facilitated detrusor activity, and that intraurethral lidocaine (1%) caused a significant decrease in bladder contraction frequency.[5] These studies suggest that mechanosensitive afferent nerves activated by fluid entering the urethra can increase the excitability of the micturition reflex and that in patients with stress incontinence, in which urine easily enters in the posterior urethra, an involuntary detrusor contraction with urgency to void may be induced. Starting from these considerations, it could be possible that the surgical approach by CERESA or VARESA, by the replacement of uterosacral ligaments by an alloplastic tape, determines not only an anatomical support of the posterior compartment but also a realignment of the urethra with recovery of urinary continence and the resolution of urgency. A perspective MRI study before and after these surgical approaches is advisable to confirm this interpretation from an anatomical point of view.

References

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Factors associated with exposure of transvaginally placed polypropylene mesh for pelvic organ prolapse
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This case-control study (48 cases, 48 controls) evaluates potential risk factors for mesh exposure following transvaginal placement of polypropylene mesh for POP requiring reoperation. The authors identified bleeding complications at the time of mesh implantation as a risk factor. Multivariable logistic regression analyses were performed to determine if age, smoking, and bleeding complications were independently associated with developing mesh exposure. Women with and without mesh exposures were of similar gravidity, parity, BMI, menopausal status, and had similar rates of medical comorbidities, prior and concomitant urogynecologic surgeries. The complication of excessive blood loss (EBL >500 ml), hematoma formation requiring intervention, or the need for a postoperative transfusion, was found to be a predictor of mesh exposure in both the univariable analysis and the multivariable model, with an adjusted OR of 7.25 (95% CI 1.47–35.66). Sixteen patients (33%) had perioperative complications in the mesh exposure group, including EBL >500 ml (9), posterior vault hematoma requiring drainage,[1] vascular injury with resultant hematoma requiring embolization of anterior and posterior branches of the internal iliac artery,[1] cystotomy repaired at the time of surgery,[2] rectal perforation with repair at the time of surgery,[1] right sciatic pain,[1] and groin and leg pain.[1] Only two controls (4%) had a complication: EBL >500 ml. Age, gravidity, parity, BMI, medical comorbidities, prior and concurrent urogynecologic surgeries, or smoking were not identified as risk factors for subsequent mesh exposure requiring reoperation. The Authors state that it is important to recognize that inconclusive findings are not synonymous with evidence of a lack of association, and larger studies are needed in order to evaluate the impact of these and other potential comorbidities on mesh complications. They also underline that the strengths of their study include its size and the use of a comparison group, with the limitations of a retrospective design, of multiple surgeons of varying skill levels, and the inclusion of surgeries involving mesh placement in different institutions. The use of polypropylene mesh to augment the vaginal repair of POP must then be weighed against the risk of mesh exposure and the potential need for additional surgery. The individual risk-benefit profile of each surgical candidate must be considered. Although it may not be possible to predict which patients will have excessive bleeding at the time of surgery, those who do have this complication need a careful surveillance for mesh exposure in their follow up.
The interest of this article can be related to the "FDA 2011 warning" as recently described by Neuman,[1] were most of the adverse events with prostheses implant are due to mesh exposure and this seems to depend on excessive implanted mesh mass, inappropriate mesh placement, applying exaggerated tension forces on the implant and native pelvic tissue, and lack of appropriate training or sufficient skills maintenance. With EBL one can expect a weaker immune response with bacterial growth and inadequate tissue repair. Furthermore it has to be remembered that the width of the vaginal wall covering the mesh implants is usually rather thin, therefore meticulous surgical measures are required in order to reduce mesh exposure, such as improving the minimal invasiveness of the procedure, reducing tissue damage and bleeding during dissection and mesh placement.

References

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