

Urge Urinary Incontinence. Surgical Treatment

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Urge urinary incontinence (UII) is defined as the involuntary loss of urine preceded by mictorial imperiousness or inability to delay micturition. These losses may vary in grade and frequency, with the consequent impact on the quality of life. The pathogenesis has not been resolved satisfactorily, existing nowadays various theories about the etiology of this entity related overall to the innervation of the detrusor muscle and the sensitivity of the bladder mucosa.

UII is a very common problem among the female population that significantly affects the quality of life. The exact prevalence cannot be known due to the tendency of many women to hide the problem. According to studies, the percentage of UII varies between 10 and 33% of women with incontinence (any involuntary loss of urine).

Unlike stress urinary incontinence (SUI), where the effectiveness of surgical treatment is well known, for UII the available and widespread therapeutic option has been until recent time to try to improve symptoms with medication (anticholinergics, beta-3 agonists) or other procedures (botulinum toxin), only thinking about surgical treatment at the cases with extremely poor outcome (enterocystoplasty, cystectomy).

About 25 years ago, UII began to be attributed to an anatomical defect of the pelvic floor (De Lancey, Petros). More recently, Jäger W. figured out that the increased urinary frequency of the studied women was only during daytime, i.e., being symptom-free in repose. In addition, women with pelvic organ prolapse and urinary urgency referred improvement or disappearance of symptoms after prolapse surgical repair. Therefore, it could be concluded that UII is caused in a significant percentage of cases by a position-dependent phenomenon, essentially by the base-neck of the bladder.

Based on this theory, the treatment of such defect would be the solution for UII and the other symptoms that are part of the overactive bladder syndrome (urinary urgency and frequency); being the position of the vaginal vault which determines the effectiveness of the treatment, due to the support function that it exerts on bladder neck.

Thus, Jäger developed a technique for the treatment of UII which was also used for pelvic organ prolapse, called VA(gino)RE(cto)SA(cropexy) or CE(rvico)RE(cto)SA(cropexy) (if uterus present, where you can perform a supracervical hysterectomy during surgery).

In addition, based on the results from preliminary studies with corpses and experimental animals, Jäger started to work on the hypothesis that UII could only be cured if the utero-sacral ligaments (USL) were replaced with bands, even in patients without clinically pelvic organ prolapses. Moreover, for the location to fix these bands, made of plastic polyvinylidene fluoride (PVDF), S2/S3 periosteum was decided as it is the anatomical origin of USL and due to the not achievement of the desired effect for UII with promontorium (like sacrocopexy). It was found out as well that it was mandatory to replace both USL, as in patients where one of the two bands was broken, UII immediately recurred. There were no erosions as the location of both bands follow the natural way of USL.

Following the theory of Petros ("Integral Theory"), both USL and pubo-urethral ligaments (PUL) have to be substituted to restore the pelvic floor function. Therefore, in addition to the performed procedure, either VA(RE)SA or CE(RE)SA, a suburethral TOT mesh was also placed. However, as TOT placement was delayed in time due to organizational issues, after 3 months UII was resolved in up to 40% of patients without the need of PUL replacement (i.e., without TOT). It means that in 60% of cases a complete restoration of the pelvic floor with both PUL and USL was needed.

Currently, a large number of patients treated with the different variations of the technique are being followed (nearly thousand) with a good percentage of initial healing, in order to compare them with the current standards of treatment.

With these advances in surgical treatment it seems obvious that we have a range of possibilities for facing UUI.