UROGENITAL PROLAPSE – CURRENT METHODS OF SURGICAL TREATMENT

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UROGENITAL PROLAPSE – CURRENT METHODS OF SURGICAL TREATMENT (Abstract): Several combined surgical procedures have been described, but connective tissue deficiency required the use of some “prostheses” instead of conventional methods based exclusively on correction by suture. **Aim:** Assessment of the techniques used for the repair of stress urinary incontinence (SUI) and anterior vaginal wall prolapse, as well as the incidence of intraoperative and postoperative incidents and complications. **Material and method:** The study was conducted between January 2007 and December 2011 at the 1st Clinic of Obstetrics and Gynecology Iași. The diagnosis was made on clinical criteria. Menopausal patients received estrogens prior to surgery. Vaginal meshes were used only in patients with grade III and IV cystocele. The patients were followed up at 1½, 6, 12 and 36 months (first local evaluation for meshes at 2 weeks after surgery). **Results:** During the study interval 400 patients with a mean age of 57.45 ±5 years (range 29 - 81 years) were surgically treated in our clinic. Of these, 150 women underwent classic surgery, 243 women transobturator tape procedure - TOT (107 TOT alone for SUI and 136 TOT combined with classic surgery), 4 women tension-free vaginal tape (TVT) procedure, and 3 patients prepubic and transobturator mesh. In 12 patients meshes with 2 or 4 arms for cystocele (7 and 5 cases, respectively) were used. Vaginal mesh extrusion was recorded in 4 patients. **Conclusions:** The use of prostheses allows a better standardization of procedures, shortening of surgical time and a better postoperative recovery, the patients being able to resume their normal activities. **Keywords:** UROGENITAL PROLAPSE, SUI, TOT, VAGINAL MESH.

Prolapse greatly affected women's personal and professional activities causing some women to adjust routines or stop activities (1). Up to 50% of multiparous women are diagnosed with urogenital prolapse and 10-20% of them require surgical treatment because of their symptoms (2). The health care impact of prolapse is likely to expand, based upon estimates of an increasing prevalence in the growing population of elderly women.

Taking into account that for reconstructive surgeries an accurate diagnosis must be done in order to correct the defect, we can use stiches, biologic or synthetic meshes. The aim of reconstructive procedures is to maintain the physiological length, diameter and vaginal axes for the conservation of sexual, urinary and bowel function. The necessity of simultaneous
correction of all pelvic floor dysfunctions must have a good anatomical and functional result, and for this the physician must to know a few of surgical techniques, to take a final optimal decision for the patient.

In clinical practice we will observe that damage to the supporting tissues can cause prolapse and urinary incontinence. The deficiency of connective tissue is a favoring factor in the pathogenesis of these conditions, but also for postoperative recurrences of urogenital prolapse. The rate of recurrences varies between 24-43% depending on surgical procedure. The involvement of connective tissue had determined the use in recent years of some “prostheses” – synthetic polypropylene meshes, which have important advantages over conventional technique exclusively based on correction by suture. This technique with meshes for recurrences was firstly used in general surgery and now has a great success in urogynecology (3). For SUI several therapeutic approaches have been tried. Nowadays transobturator sling is becoming more and more important. TOT described for the first time in Netherlands (1998), and introduced by Delorme in France in 2001, has been accepted in the US since 2003 (4).

MATERIAL AND METHODS
This retrospective and prospective study was conducted between January 2007 and December 2011 at the 1st Clinic of Obstetrics and Gynecology Iasi. The diagnosis was made on history and physical examination, without urodynamic tests. We collected a series of data from patients regarding their health status and medical history. Symptomatic anterior compartment prolapse was determined by self-report of a feeling of bulge, pressure, or protrusion or a visible bulge from the vagina. There is resulting protrusion of the vaginal wall. Anterior compartment status was assessed by the most caudal bladder point and the internal urinary meatus. Transperineal ultrasound for urethra angle and abdominal ultrasound for the bladder for chronic retention were used for some cases.

Local estrogen preparations were used to improve preoperative vaginal thinning (atrophy) for minimum three-four weeks for all women in menopause. We recommended vaginal mesh only for cystocele grade III or IV.

The postoperative course was evaluated at 1½, 6, 12 și 36 months (first local examination for meshes at 2 weeks).

Fig. 1. Comparison cystocele quantification after Baden și Walker, Jacquetin, International Continence Society (ICS)

The grade of anterior vaginal wall was appreciated with the patients in the lithotomy position at rest and during a cough test and Valsalva maneuver. The classification
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used by us in the study was Jacqetin, which modifies the system sistemul Baden și Walker (fig.1)

- Stage I - the leading edge descends until to the first 1/3 of the vagina
- Stage II – descend until the mid-vagina
- Stage III – descend at the hymen level
- Stage IV – outside the hymen

RESULTS

During the study interval a total number of 400 women were surgically treated; mean age at admission was 57.45 ±5 years (range 29-81 years). The greatest number of cases were recorded in 2008 – 108 patients (fig. 2).

The majority of patients were post-menopausal and in the 6th decade of life (fig. 3).

The following surgical procedures were performed: classic pelvic reconstructive surgery (150 cases), TOT (243 cases – TOT alone for SIU in 107 women and TOT combined with classic surgery in 136 patients), TVT (4 cases) and suprapubic arc sling and transobturator mesh (3 cases). In 12 women the transvaginal repair of the cystocele was done with 2 or 4 arm meshes (7 and 5 patients, respectively) (fig. 4,5).
We mention that 25 women who had undergone previous surgery for SUI or anterior vaginal wall prolapse, had recurrence between 6 months and 5 years, and with TOT procedure in our clinic during the study interval obtained good results.

A small number of intraoperative complications were recorded: in 5 women the sling had a transvaginal position and the tapes were replaced during the surgery and in 2 cases the tape arrived inside the bladder during the TOT procedure and this was seen at cystoscopic examination (these were accidents during the learning curve). As to postoperative complications, there were 2 cases with mesh exposure in the vagina – one case with insulin-dependent diabetes mellitus, one case with important atrophy (fig. 6), other 2 with vaginal mesh erosion after 6 months and 1 year, respectively, and only 1 case with erosion after mid-urethral sling. In these patients we performed the excision of the exposed mesh (fig. 7) with general and local antibiotic treatment and hormone therapy (one case with secondary suture).
No uterthral lesions were recorded. All patient except two had urinated spontaneously when bladder catheter was removed. After sling procedure, only 3 patients complained of persistent urine loss, but all other women – 98.78%, were satisfied with the results of surgery.

DISCUSSIONS

It was estimated that a women has an 11% lifetime risk of undergoing a single operation for urinary incontinence or pelvic organ prolapse (POP). It is considered that the risk of urogenital prolapse is duplicated in every single decade of the life, fact not supported by our study. A study estimated that the number of American women with at least one pelvic floor disorder will increase from 28.1 million in 2010 to 43.8 million in 2050. During this time period, the number of women with urinary incontinence (UI) will increase by 55% from 18.3 million to 28.4 million (5). All these underline the importance of using efficient surgical methods with a small rate of recurrence (6).

In 1996, a standardized terminology for the evaluation of pelvic organ prolapse (POP) was established by the International Continence Society, the American Urogynecologic Society, and the Society of Gynecologic Surgeons. This terminology replaced terms as cystocele, rectocele, enterocele, and urethrovaginal junctions with precise descriptions relating to specific anatomic landmarks.

The first points are on the anterior vaginal wall and categorize anterior vaginal wall prolapse accordingly. Point (Aa) is a point located in the midline of the anterior wall 3 cm proximal to the urethral meatus and is roughly the location of the urethrovaginal crease. Point (Ba) represents the most distal position of any part of the anterior vaginal wall. Point (C) represents either the most distal edge of the cervix or the leading edge of the vagina if a hysterectomy has been performed. Point (D) represents the location of the posterior fornix (pouch of Douglas) in a woman with a cervix. Point (Bp) is a point most distal of any part of the upper posterior vaginal wall, and point (Ap) is a point located in the midline of the posterior vaginal wall 3 cm proximal to the hymen. To record measurements, these points should be expressed in centimeters above or below the hymen. It is important for the examining individual to express the position and other circumstances of the examination (e.g., straining or not, patient flat on table or in examining chair).

Staging of Pelvic Floor Prolapse Using International Continence Society Terminology (POP Quantification):

- Stage 0: No prolapse is demonstrated. Points Aa, Ap, Ba, and Bp are all at -3 cm and either point C or D is between total vaginal length -2 cm;
- Stage I: Criteria for stage 0 are not met, but the most distal portion of the prolapse is >1 cm above the level of the hymen;
- Stage II: The most distal portion of the prolapse is less or equal to 1 cm proximal or distal to the plane of the hymen;
- Stage III: The most distal portion of the prolapse is >1 cm below the plane of the hymen but protrudes no further than 2 cm less than the total vaginal length in centimeters;
- Stage IV: Essentially complete eversion of the total length of the lower genital tract.

We did not use in practice this quantification, but it is important because it introduces a common language for all surgeons,
and much more age <60 years and preoperative POP quantification stage 3 or 4 were associated with a greater likelihood of recurrent prolapse at 1 year (7).

TOT procedure rapidly and with great success replaced TVT technique and today is the gold standard in the surgical treatment of SUI. For understanding why this procedure was created it is necessary to know the anatomy, and this shows us that the method is without risks because it avoids all major structures. In our clinic TOT procedure was preferred to TVT due to its shorter shorter operative time (no need of control cystoscopy after surgery) and minimal risk for bladder lesions.

The treatment of pelvic static disorders might also vary depending on age, clinical conditions and sexual life prospects for the future. A comparative study of postoperative results of anterior colporrhaphy and mesh procedure showed that pain during sexual intercourse appears in 2% after colporrhaphy and in 7.3% after transvaginal repair with mesh (8). For that reason the management in our clinic recommended the use of meshes only for anterior vaginal compartment grade III and IV. Contraindication of using prosthetics for the pelvic floor are not established yet, and the interaction with bladder either. Patients must be informed about these new methods of treatment with a great rate of anatomical repair, even though there is a risk of postoperative complications.

Data in the literature reveal that preoperative treatment for three weeks with estrogens reduce the incidence of cystitis within the first four postoperative weeks but this unexpected finding needs confirmation from larger trials. Our study supports this finding. Also tibolone, a selective estrogenic activity regulator, per vaginal administration had better results on vaginal dryness versus per os regimen (9). Some studies indicated a rate of cure about 80.64% and 87% (10,11). It seems that for our group of patients results were better – 98.78%.

CONCLUSIONS

Our study ascertains that using synthetic prosthesis allows a good standardization of procedures, decrease the operative time, a better postoperative recovery, and women resume usual activities. We reserved the technic with vaginal meshes only for cases with important anterior vaginal compartment prolapse and patients in which the techniques based on suture of destroyed structure would results in an increased risk of recurrence. In our group of patients the rate of complications was low 3.05%, possibly because of the use of preoperative local estrogens and postoperative antibiotic prophylaxis. TOT procedure offered to our patients a good urinary continence for a long period.

REFERENCES

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MUIR-TORRE SYNDROME

First described by Muir et al in 1967 and Torre in 1968, Muir-Torre syndrome (MTS) is a rare autosomal dominant genodermatosis characterized by at least one sebaceous gland neoplasm and at least one visceral malignancy. Muir-Torre syndrome follows an autosomal-dominant pattern of inheritance in most cases with high penetrance and variable expression, but sporadic cases have also been reported. Because MTS is associated with germline mutations in the DNA mismatch repair (MMR) genes hMSH2 and hMLH1, it is considered a phenotypic subtype of Lynch syndrome (also known as hereditary nonpolyposis colorectal cancer syndrome), in which inherited defects in DNA MMR genes result in microsatellite instability. Although germline disruption of hMLH1 and hMSH2 is evenly distributed in Lynch syndrome, more than 90% of MTS patients show hMSH2 disruption. Although MTS is rare, pathologists have an important role in the early detection and initial diagnosis of MTS: identification of at-risk individuals (affected patients and family members) allows appropriate screening and surveillance for visceral malignancies, thereby reducing morbidity and mortality (Bhaijee F, Brown AS. Muir-Torre Syndrome. Arch Pathol Lab Med. 2014; 138: 1685–1689).

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