

International Seminar : 3. Urogynecology

1) Trends in pelvic reconstructive surgery for pelvic organ prolapse

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Pelvic organ prolapse (POP) has become the problem that is a tough disorder for urogynecological surgeons in the aging society. Surgery for POP in women has undergone quite drastic changes in clinical practice over this decade. The use of vaginal synthetic mesh increased rapidly since the late 1990's as surgeons attempted to improve on presumed relatively poor outcomes with original native tissue repairs.

POP often requires the surgical reconstruction of deficient muscular and fascial tissue components of the pelvis, as these organs must be anatomically located. During the latter half of this century, vaginal hysterectomy and anterior/posterior colporrhaphy have been applied as the traditional treatment for pelvic organ prolapse but its high recurrence rate has become a big issue. However, this traditional procedure lacks the reinforcement of the upper vagina. The objective of surgery for genital prolapse should be performed with anatomical and functional reconstruction, healing of symptom and prevention of relapse and be put an important point to maintenance or improvement of quality of life of the patients. The satisfactory correction of POP is a formidable surgical challenge and many techniques have been described for the correction of this distressing problem.

In the most of patients with POP, large cystocele and enterocele, we can determine supportive defect at the upper portion of vagina and cervix. The apical part of the vagina and uterine cervix are suspended to sacrum by the complex of uterosacral ligaments and cardinal ligaments connected to the uterine cervical ring (Delancey's level 1). The upper two thirds of the vagina, sandwiched by the pubocervical fascia (PCF) anteriorly and the rectovaginal fascia (RVF) posteriorly, is attached to the arcus tendinous fascia pelvis (ATFP) located at the pelvic side wall. These two sheets of PCF and RVF support the bladder and rectum like a hammock (level 2). The lower one third of the vagina, urethra, perineal body and anus are supported by fusion to the perineal membrane and levator ani muscles (level 3). It is rational that pelvic floor reconstructive operation is carried out to restore anatomical defects of these three levels in a site-specific manner. As standard operations for level 1 defect, vaginal hysterectomy with reinforcement of vaginal apex and closure of culde-sac is preferred. The McCall culdeplasty (uterosacral ligament fixation), the sacrospinous ligament fixation and iliococcygeous fascial fixation have been proved to be effective in evidence-based medicine. For level 2 defects, anterior colporrhaphy with Kelly's suture is carried out. In order to restore lateral support of the vaginal wall, paravaginal repair suturing the vaginal side wall to the detached ATFP is selected. To repair level 3 defects, suburethral fascial plication is effective to the hypermobile urethra. For a low rectocele and perineal laceration, posterior colporrhaphy and perineorrhaphy are useful to reattach the perineal body to RVF. Furthermore, for the uterine prolapse with cervical elongation, the Manchester operation in which the uterine cervix is amputated and the uterosacral ligaments are reattached to the neocervix is also useful for women desir-

ing uterine preservation. Vaginal obliterative operations such as LeFort colpocleisis and colpectomy are also considerable and very effective procedures in elderly POP patients or patients with high risk medical complications.

Tension-free vaginal mesh (TVM) operation was formulated in 2004. Wide polypropylene soft mesh is inserted around prolapsed vagina. Arms of anterior mesh are fixed through arcus tendineus fascia pelvis and obturator foramen with tension-free manner and arms of posterior mesh are fixed through bilateral sacrospinous ligament. TVM is simple to understand for most of urogynecologists and has become popular rapidly. However, mesh complications such as protrusion, inflammation and pain, can have serious consequences. FDA released safety communication and alert to reduce the risks of mesh in 2008 and 2011. POP repair is based on use of native tissues or synthetic materials. What is accepted by all is the need to properly assess these patients, involve them in the management and to agree on the type of surgery. As public awareness of the associated complications increased, the US FDA stated that vaginal mesh surgery had not been proven superior to native tissue repairs. We, urogynecologists must reconsider importance and training of the native tissue repair for POP, especially fixation of the apical component of the vagina.
