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Title: THE EFFECT OF PELVIC ORGAN PROLAPSE ON LOWER URINARY TRACT FUNCTION

Aims of Study :

Pelvic organ prolapse (POP) is a process in which the pelvic contents, including the reproductive organ, bladder, rectum, and/or small intestines herniated through defects in the vaginal wall. Pelvic organs are closely related to the urinary tract affecting various urinary functions. The purpose of current study was to evaluate the relationship between pelvic organ prolapse and lower urinary tract function by urodynamic studies.

Methods :

The study population consisted of 40 patients with pelvic organ prolapse who underwent urodynamic study at the urogynecology clinic, Yonsei University Medical Center between March 1999 and May 2000. Each patient underwent a standardized urogynecologic interview and complete physical examination. Pelvic organ prolapse was quantified according to the International Continence Society's Pelvic Organ Prolapse Quantitation (POPQ) system. All patients had pelvic examinations performed both in the supine position and in a 45° upright position in a birthing chair while performing the Valsalva maneuver with maximal effort. All urodynamic tests were performed without prolapse being reduced. Urodynamic study (Dantec-5000; Menuet, Copenhagen, Denmark) included multi-channel cystometry, urethral pressure profilometry and uroflowmetry. Urethral pressure profilometry was performed with a 12 Fr catheter (Mentor Co, Kedah, Malaysia). Whether the pelvic organ prolapse could influence bladder and urethral function were studied according to stage and leading point of prolapse. All terminology conforms to the recommendations of the International Continence Society, unless otherwise stated. For statistical analysis we used SPSS (SPSS Inc, Chicago, Ill) software. The chi-square test and ANOVA test were used where appropriate. A p value of <0.05 was considered significant.

Results :

The mean age was 59.1±10.2 years (range 34-81), with 90% of patients over 51 years. All patients were parous and average number of delivery was 4.0 ±1.4. In the stage I and II, 13 of 15 patients showed anterior vaginal defect (substage, Aa). However in the stage III, and IV, 10 of 25 patients showed apical defect (substage, C). Urge incontinence and hesitancy were more common in patients with anterior vaginal wall defect than apical defect.

There were no difference in the various parameters of uroflowmetry and filling cystometry according to stage of POP. However, Maximal urethral pressure and continence area were significantly higher in stage IV than stage I, II and III. There were no parameters difference in uroflowmetry and filling cystometry according to leading point of POP. Continence area was significantly higher in patients with apical defect than anterior vaginal wall.

Conclusions :

POP affects voiding function through increase of MUCP, especially in the patients with stage IV and when the leading point of POP was cervical cuff. After surgical correction of POP, evaluation of pre-op and post-op changes of urodynamic study parameters should be necessary.