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CORRELATES OF INCONTINENCE SEVERITY IN A COHORT OF STRESS INCONTINENT WOMEN UNDERGOING SURGICAL TREATMENT

Hypothesis / aims of study

The aim of this study was to identify predictors of urinary incontinence severity at baseline in a cohort of women undergoing surgery for stress incontinence.

Study design, materials and methods

Baseline data were obtained from 655 women with pure or predominant stress incontinence participating in a randomized clinical trial comparing the Burch retropubic urethropexy to autologous rectus fascial sling. The baseline evaluation included a 3-day bladder diary, medical, obstetric, and surgical history, physical examination, and the PISQ-12 sexual function questionnaire. Severity of incontinence was defined by the number of incontinence episodes recorded in the bladder diary. The relationship between incontinence severity and a number of variables was explored using bivariate and multivariable linear regression modeling when appropriate. The primary dependent variable was log of mean number of accidents per day. Independent variables included demographic (age, ethnicity, socioeconomic status), medical history (presence of diabetes, any fecal incontinence, current smoking, urinary tract infections), obstetric history (number of pregnancies, vaginal deliveries, weight of largest baby), gynecological history (menopausal status, current hormone therapy, hysterectomy), previous treatment for incontinence, sexual dysfunction score, body mass index, Q-tip displacement and Pelvic Organ Prolapse Quantification stage (POP-Q).

Results

Mean age at enrollment was 52 years (sd 10.3) with a range of 28 to 81 years; mean number of accidents per day was 3.2 (sd 2.9), range 0-26, median 2.3. 43.5% of patients were postmenopausal, mean parity was 3.3 ± 1.8 , median 3 with a range of 0 to 12; 30.7% of patients had a previous hysterectomy. Only 2% had previous surgery for pelvic organ prolapse, 14.2% had previous surgery for urinary incontinence and 45.3% of patients had undergone some of the treatment prior to their surgery for stress incontinence. The mean total IIQ score was 171.4 ± 101.3 , where the maximum score is 400. The mean stress score on the MESA questionnaire was 19.4 ± 4.6 where the maximum score is 27 and the mean pad weight change was 43.5 ± 79.3 grams. 59.1% of patients had Stage II prolapse by pelvic organ prolapse quantification with 15% having severe prolapse, Stage III or IV. The mean resting Q-tip angle was $15.4 \pm 17.7^\circ$ with a mean Q-tip straining angle of $60.2^\circ \pm 18.4^\circ$. Bivariate analysis revealed no association of severity with parity, number of vaginal deliveries or weight of the largest baby. In a multivariable model, increased number of incontinence episodes per day was significantly associated with lower prolapse stage ($p < .0001$), greater body mass index ($p = .0003$), current smoking status ($p = .02$), and lower Q-tip displacement ($p = .04$). Severity was not significantly related to age, socioeconomic status, or previous hysterectomy.

Interpretation of results

Numerous demographic and clinical characteristics of subjects undergoing surgery for stress incontinence were evaluated for their association with incontinence severity. In a multiple regression analysis controlling for previous hysterectomy and resting Q-tip angle, prolapse stage and Q-tip displacement, BMI and smoking status continued to be significantly associated with incontinence severity.

Concluding message

Incontinence severity in a surgical population was independently associated with two modifiable factors, obesity and tobacco use, as well as pelvic support.

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