

## CORRELATION BETWEEN UROGENITAL SYMPTOMS AND PELVIC ORGAN PROLAPSE QUANTIFICATION (POPQ) FINDINGS IN WOMEN.

### Hypothesis / aims of study

Do urogenital symptoms correlate with POPQ findings in women?

### Study design, materials and methods

A prospective case controlled study of women referred with pelvic organ prolapse in the disease arm was set up in September 2002. Premenopausal controls were recruited consecutively from the pre-operative clinic for women due to undergo a laparoscopic procedure and postmenopausal controls were recruited consecutively from the postmenopausal bleed clinic. All women able and willing to give informed consent were eligible for the disease arm. Controls comprised of women without known prolapse who gave informed consent. Those having current or previous treatment for prolapse, previous hysterectomy, within three months of delivery, only Caesarean section deliveries or radical pelvic treatments, such as radiotherapy, that affected pelvic organ support were excluded. Ethical approval was obtained for this study. A sample size of >100 was required for the prolapse arm and controls sample was broken down into 100 premenopausal nulliparous women, 100 premenopausal parous women and 100 postmenopausal women.

A detailed structured interview of 11 urogynaecological symptoms (vaginal lump, pelvic heaviness, low backache, urinary urgency, urge incontinence, stress urinary incontinence, voiding difficulty, constipation, faecal urgency, faecal incontinence and perineal splinting), medical, surgical and drug history was conducted by two researchers in a pre-agreed standard fashion. All women were asked to complete the validated pelvic floor specific QOL questionnaires, the PFDI (Pelvic Floor Distress Inventory) and PFIQ (Pelvic Floor Impact Questionnaire). (Barber et al., 2001) The PFDI was made up three parts of which the POPDI (Pelvic Organ Prolapse Distress Inventory) related specifically to prolapse and the PFIQ was made up of three parts of which the POPIQ (Pelvic Organ Prolapse Impact Questionnaire) related specifically to prolapse. From the PFDI the bothersomeness of the 11 urogynaecological symptoms were calculated and symptoms further categorised as absent, present but no-bother and present and bothersome. Women underwent the POPQ examination using maximal Valsalva in the semi-recumbent dorsal lithotomy position immediately following micturition.

Nonparametric statistical analyses were performed to avoid the assumption of normal distribution of the data. However, means and not medians are reported as they were felt to be more clinically applicable. The significance level was set at  $\leq 5\%$ .

### Results

135 women with prolapse and 266 controls were recruited to this study. The demographics and mean POPQ stages of these groups are shown in Table 1. The reported symptoms are shown in Table 2.

The 11 symptoms reported above also had bother scores derived from the average score from the relevant questions within the PFDI. Analysis of the control group alone revealed that symptoms of vaginal lump and voiding difficulty were the most consistently associated with greater descent of pelvic organs and higher POPQ stages. Pelvic heaviness was associated with greater apical descent in the postmenopausal women. Analysis of the prolapse group also revealed that vaginal lump and voiding difficulty were the most consistently associated with greater prolapse. Correlation between symptom bother scores and POPQ was analysed in the combined controls and prolapse groups in order to assess the link between symptoms and signs. In the combined groups, only vaginal lump bother correlated with greater overall POPQ stage, Aa, Ba, C, D and GH (Spearman  $\rho$  correlation coefficients  $\geq .121$ ,  $p \leq 0.05$ ). Vaginal lump was also the only symptom to correlate with higher POPDI and POPIQ scores, which measure distress and interference in lifestyle due to prolapse symptoms (Spearman  $\rho$  correlation coefficients = .227,  $p < 0.01$  and .156,  $p \leq 0.02$  respectively).

Table 1: Demographics and POPQ stage of controls and women with prolapse. (means and standard deviations shown)

Groups	Age mean yrs (SD)	Parity mean (SD)	BMI mean kg/m <sup>2</sup> (SD)	HRT (%)	Previous prolapse operations mean (SD)	POPQ stage mean (SD)
Controls						
Premenopausal nulliparous (n=95)	31 (5.82)	-	25 (4.25)	-	0	0.6 (0.51)
Premenopausal parous (n=90)	35 (5.69)	3.0 (1.56)	27 (4.90)	-	0	1.1 (0.55)
Postmenopausal (n=81)	59 (8.73)	2.7 (1.98)	31 (6.96)	16 (20%)	0	1.3 (0.70)
Prolapse (n=135)	60 (13.30)	3.1 (1.87)	28 (4.90)	33 (24%)	0.3 (0.65)	2.7 (0.72)

Table 2: Symptoms reported by controls and women with pelvic organ prolapse.

REPORTED SYMPTOMS	CONTROLS			PROLAPSE GROUP n (%)
	Nulliparous premenopausal n (%)	Parous premenopausal n (%)	Postmenopausal n (%)	
Vaginal lump	0 (0%)	4 (4%)	5 (6%)	127 (94%)
Pelvic heaviness	13 (14%)	21 (23%)	11 (14%)	87 (64%)
Low backache	20 (21%)	36 (44%)	41 (51%)	32 (24%)
Urinary urgency	18 (19%)	17 (19%)	30 (37%)	92 (68%)
Urge incontinence	9 (10%)	16 (18%)	25 (31%)	67 (50%)
Stress urinary Incontinence	11 (12%)	33 (37%)	31 (38%)	54 (40%)
Voiding difficulty	9 (10%)	9 (10%)	15 (19%)	59 (44%)
Constipation	18 (19%)	12 (13%)	14 (17%)	52 (39%)
Faecal urgency	10 (11%)	7 (8%)	17 (21%)	27 (20%)
Faecal incontinence	5 (5%)	4 (4%)	7 (9%)	17 (13%)
Perineal splinting	8 (8%)	7 (8%)	9 (11%)	34 (25%)

Interpretation of results

Women report an array of urogynaecological symptoms, which are often perceived to be due to prolapse. The results demonstrate that some symptoms, such as low backache, are common in women who do not have prolapse. Overall, the symptom of vaginal lump correlated best with POPQ findings and the prolapse specific QOL questionnaires. Symptoms of voiding difficulty and pelvic heaviness did correlate with greater prolapse in some subsets of women but were less consistent than vaginal lump. More bothersome symptoms correlated with greater descent of the anterior and apical vagina but not the posterior compartment.

Concluding message

The symptom of vaginal lump is the best predictor of more severe prolapse as measured by the POPQ and the prolapse specific QOL tools (POPDI and POPIQ) used. Other symptoms, such as pelvic heaviness, are commonly reported by women without prolapse. Prolapse of the posterior vaginal compartment may produce less symptom bother than the anterior and apical compartments resulting in no correlation

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**HUMAN SUBJECTS: This study was approved by the Central Manchester Local Ethics & Research Committee and followed the Declaration of Helsinki Informed consent was obtained from the patients.**