



Abstract #622: Can we predict urodynamic findings from examining prolapse with women with pelvic organ prolapse and lower urinary tract symptoms?

Lemmon B, Tadros M, Fernando R, Digesu A, Bhide A, Khullar V
St Mary's Hospital, Imperial College Healthcare NHS Trust

Hypothesis / aims of study

Pelvic organ prolapse and lower urinary tract symptoms often co-exist. However, the relationship between different compartments of prolapse and urinary symptoms is not well understood. Furthermore, there is even less published data exploring how each prolapse compartment effects the female bladder. Multiple studies have shown an association between grade of prolapse and overactive bladder (OAB) [1]. Anterior compartment prolapse in particular, has been previously shown to be related to severity of OAB symptoms [2]. Conversely there have been studies showing no relationship between urgency incontinence and prolapse grade [3].

The relationship between prolapse compartment, prolapse grade, and the urodynamic finding of detrusor overactivity is even less well investigated in the literature. In this study we aim to investigate how each prolapse compartment: anterior, mid or apical, and posterior, is associated with urodynamic findings of detrusor overactivity or urodynamic stress incontinence.

Does clinical examination of prolapse predict urodynamic findings?

Study design, materials and methods

We examined the urodynamic traces, clinical symptoms, and clinical examinations of women with pelvic organ prolapse and lower urinary tract symptoms referred to a tertiary level urogynaecology unit. Saline urodynamics were performed following ICS urodynamics recommendations, and all women had urodynamics performed with a vaginal pessary in situ. None of the women included in the study had undergone hysterectomy or previous pelvic floor surgery.

Statistical analysis was performed using IBM SPSS Statistics 29. Chi-squared and linear regression models were used to explore the relationship between compartment of prolapse, stage of prolapse, and urodynamic findings.

Results and interpretation

Urodynamic traces were reviewed from fifty-six women with pelvic organ prolapse and lower urinary tract symptoms.

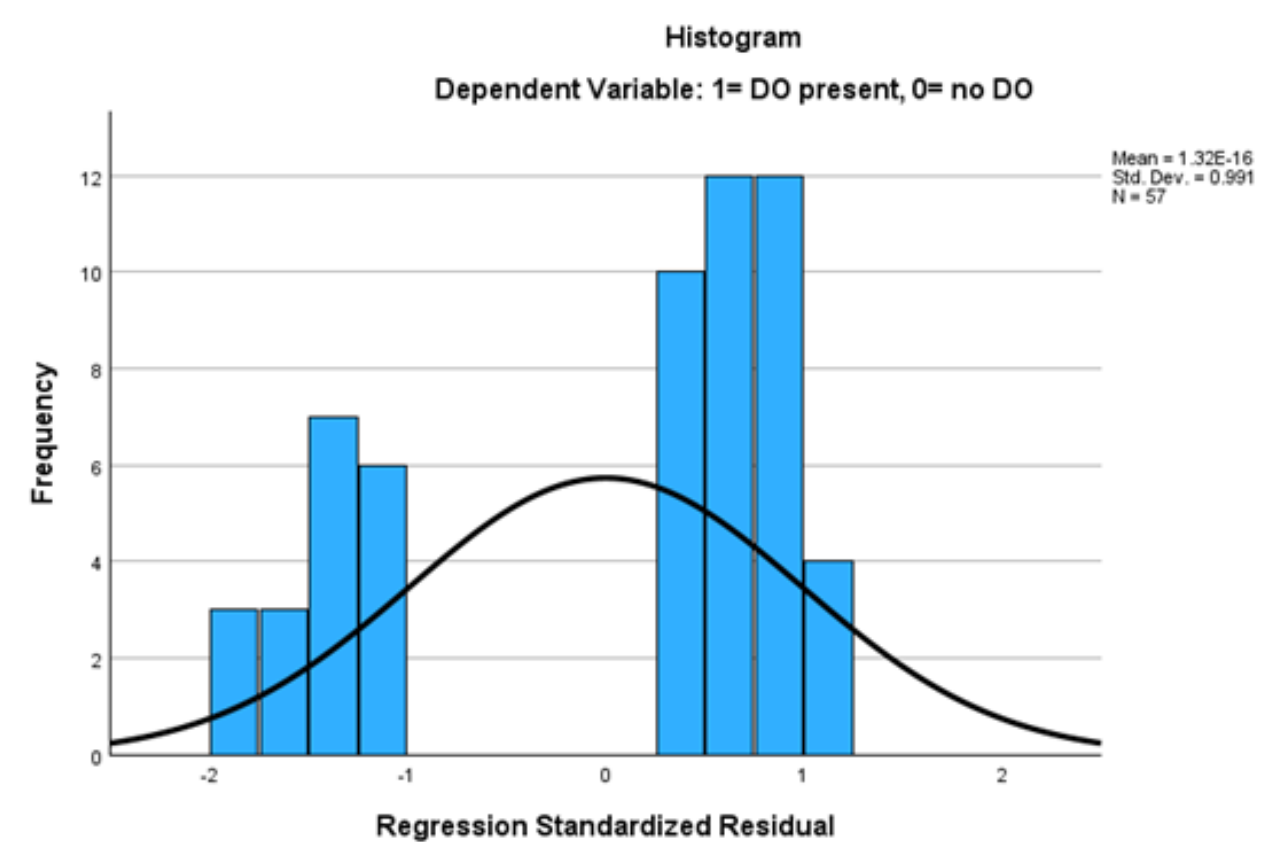
The relationship between compartment of prolapse and urodynamic findings of detrusor overactivity or urodynamic stress incontinence were investigated using Chi-squared, where grade 0-1 was no significant prolapse and grade 2 or high was significant prolapse. We found no statistically significant correlations.

Compartment of POP:	Urodynamic SI α-value:	Detrusor overactivity α-value:
Anterior compartment	0.097	1
Mid compartment	0.632	0.691
Posterior compartment	0.411	0.061

Linear regression modelling was used to assess whether prolapse compartments can predict the presence of detrusor overactivity. This revealed that only posterior compartment related to the diagnosis of detrusor overactivity ($p=0.046$). $R^2=0.071$ which demonstrates that the presence of grade of posterior wall prolapse only effects 7% of the result of detrusor overactivity seen during urodynamics.

There were no statistically significant relationships between grade and compartment of prolapse and maximum detrusor pressure measured during detrusor contraction (pdetmax).

Compartment:	p value:
Anterior:	0.216
Mid/ apical:	0.088
Posterior:	0.046
Anterior and mid:	0.222
Anterior and posterior:	0.105
Ant, Mid, Post:	0.193
Mid and posterior:	0.100



Conclusions

These findings suggest that there is not a strong relationship between clinical examination of prolapse and urodynamic findings. Clinical examination of prolapse therefore does not allow for an accurate prediction of bladder function. This gives some additional evidence to the importance of performing urodynamics as part of a full assessment of women with prolapse and lower urinary tract symptoms prior to pelvic floor repair.

References

1. Pelvic organ prolapse and overactive bladder. *Neurourol Urodyn* 2010;29:30–9.
2. Pelvic organ prolapse quantification in women referred with overactive bladder. *Int Urogynecol J* 2010;21:1365–9.
3. Anterior vaginal wall prolapse and voiding dysfunction in urogynecology patients. *Int Urogynecol J Pelvic Floor Dysfunct* 2007;18:721–5