

## RANDOMISED STUDY TO DETERMINE IF RECTAL DISTENSION ALTERS URODYNAMICS FINDINGS?

### Hypothesis / aims of study

The rectum and bladder are derived from the same embryological structure and share the same peripheral nerve supply and central nervous system sensory interpretation. A study on a small number of healthy volunteers has demonstrated that a full rectum can alter bladder sensations and a full bladder can lead to decreased anorectum filling sensation. The aim of the study was to assess how rectal distension affects urodynamics parameters and diagnosis.

### Materials and Methods

Women completed a full history, including urinary and bowel history, and examination prior to urodynamic investigation. Women with any bowel disease, or history of bleeding per rectum were excluded. The women then underwent urodynamics studies using normal saline at room temperature to fill the bladder via a 12F filling catheter and 4.5F pressure catheters in the rectum and the bladder. The filling phase of urodynamics was carried out twice on every patient with the rectal balloon filled with 150ml of normal saline, causing the rectum to be distended, and with rectal balloon empty. Women were randomised, using the closed envelope method, into having the rectal balloon distended during the first or during the second filling phase and therefore acted as their own controls. First desire, strong desire and bladder capacity were recorded as well as urodynamics diagnosis.

### Results

Thirty patients were recruited, 16 reported mixed urinary incontinence (53%), 5 had isolated OAB symptoms (17%) and 9 (30%) reported isolated stress urinary incontinence. Patients with distended rectum had statistically significant lower maximum bladder capacity, and lower bladder volume at which first and strong desire was felt. (see table 1) In 4 patients (13%) a diagnosis of DO was found with the rectum was distended but not when the rectum was empty. There were no cases of bursting, displacement of, or retention of or any adverse events associated with insertion of the rectal balloon.

Table 1 First desire, strong desire and maximum bladder capacity with the rectum distended and undistended

| N=30             | Mean volume (ml)<br>With rectal<br>distension | Mean volume (ml)<br>Without rectal<br>distension |         |
|------------------|---|--|---------|
| First Desire     | 107   | 194  | p<0.001 |
| Strong desire    | 246   | 344  | p<0.001 |
| Bladder Capacity | 307   | 413  | p<0.001 |

### Interpretation of results

This device is safe and effective for distension of the rectum and may be model for patients with obstructive defaecation. When patients had their rectums distended it had a significant effect on their bladder function in terms of their urodynamic parameters including reduction of their maximum cystometric capacity.

### Concluding message

Rectal distension has a significant effect on urodynamics parameters and this should be considered when managing patients with urinary symptoms. A bowel history is essential and management of any obstructive defaecatory symptoms as well as urinary symptoms is essential.

### References

J Urol 2003 Apr;169(4):1392-4.

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| <b>Specify source of funding or grant</b>               | <b>None</b>          |
| <b>Is this a clinical trial?</b>                        | <b>No</b>            |
| <b>What were the subjects in the study?</b>             | <b>HUMAN</b>         |
| <b>Was this study approved by an ethics committee?</b>  | <b>Yes</b>           |
| <b>Specify Name of Ethics Committee</b>                 | <b>St. Marys REC</b> |
| <b>Was the Declaration of Helsinki followed?</b>        | <b>Yes</b>           |
| <b>Was informed consent obtained from the patients?</b> | <b>Yes</b>           |