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Title: MAXIMUM URETHRAL CLOSURE PRESSURE AND SPHINCTER VOLUME IN WOMEN WITH URINARY RETENTION

Aims of Study

A syndrome of isolated urinary retention in young women, associated with polycystic ovaries and an electromyographic (EMG) abnormality of the striated urethral sphincter has been described (1). The EMG abnormality is of the type which causes overactivity of the muscle, inducing changes of work hypertrophy. We therefore investigated the structure and function of the urethral sphincter in a successive series of women with urinary retention.

Methods

66 women referred to our department with complete or partial urinary retention underwent EMG of their striated urethral sphincter using a concentric needle electrode, followed by measurement either or both of urethral pressure profile and urethral sphincter volume by transvaginal ultrasound scanning. Results were analysed using a two-tailed independent samples t-test.

Results

The mean maximum urethral closure pressure (MUCP) was significantly increased in patients who had the sphincter EMG abnormality compared to the mean MUCP in those with a normal EMG (Mean +/- SD was 103 +/- 26.4 cms³ EMG abnormal vs. 76.7 +/- 18.4, EMG normal, p<0.001), as was urethral sphincter volume (Mean +/- SD was 2.29 +/- 0.64 cms³, EMG abnormal vs. 1.62 +/- 0.32, EMG normal, p<0.001). The results from those patients who underwent all three investigations are shown in the graph.

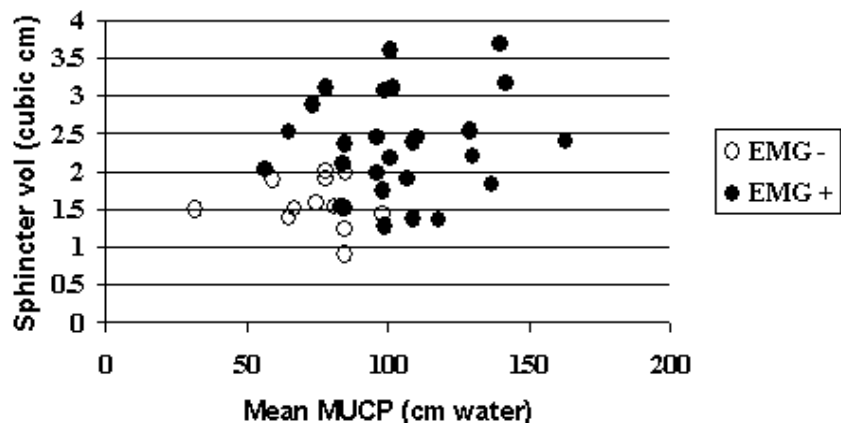


Figure 1: MUCP and Urethral Sphincter Volume by EMG result.

Conclusions

This study provides further evidence that a local sphincter abnormality is the likely cause of retention in a subgroup of women. Urethral pressure profilometry and sphincter volume measurement are useful in the investigation of these patients, especially when EMG is not readily available.

1. Abnormal electromyographic activity of the urethral sphincter, voiding dysfunction, and polycystic ovaries: a new syndrome? *BMJ*, 297: 1436, 1988

