

URETHRAL SPHINCTER PRESSURE: A VALUABLE ASSET IN THE URODYNAMIC EVALUATION

Hypothesis / aims of study

Both the bladder and the bladder outlet can be sources of significant lower urinary tract (LUT) dysfunction. It would seem logical to assume that sphincter pressure monitoring would add critically important insight to the understanding of LUT symptoms. Yet direct assessment of dynamic urethral sphincter behaviour is left out of most urodynamic studies (UDS). This paper addresses the importance of not only static but also dynamic urethral sphincter-pressure monitoring during the urodynamic study.

Study design, materials and methods

From February 2006 until January 2008, 382 urodynamic studies were performed to evaluate patients with symptoms of urgency and frequency. In all studies, bladder and sphincter behaviour were assessed during the various phases of the urodynamic study using a dual sensor T-Doc catheter and a Medtronic Duet® Logic G/2 UDS-machine. Dynamic sphincter activity was captured by fixing the distal sensor of the T-Doc catheter at the point of highest sphincter pressure. Dynamic Sphincter activity was then recorded during the filling, transition to void and voiding phases of the exam.

Results

In all studies, symptoms were best explained by recording both sphincter and detrusor activity. There were no normal sphincter recordings. A random sampling of 30 of these 382 studies showed varying degrees of a) Voiding dyssynergia (55%), b) Urethral hypersensitivity (75%), c) Urethral clonic instability during filling (30%) and d) Intrinsic sphincter weakness, sphincter closure pressures < 55 cm H₂O (10%).

Interpretation of results

Monitoring sphincter behaviour was critical to diagnose and establish treatment of LUT dysfunction. The sphincter dysfunction needed to be selectively addressed in the treatment of each of these patients.

Concluding message

Urodynamic studies should be geared toward obtaining enough critical data to understand all the nuances of voiding dysfunction. The data supports the argument that direct monitoring of the bladder outlet should be part and parcel of every urodynamic study. All components of LUT dysfunction need to be addressed for optimal long term therapeutic results.

<i>Specify source of funding or grant</i>	N/A
<i>Is this a clinical trial?</i>	No
<i>What were the subjects in the study?</i>	HUMAN
<i>Was this study approved by an ethics committee?</i>	No
<i>This study did not require ethics committee approval because</i>	Normal Urodynamic studies to evaluate patients with voiding dysfunction
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes