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Title: THE URODYNAMIC DIAGNOSIS OF LARGE POST VOID RESIDUAL URINE VOLUMES IN NEUROLOGICALLY NORMAL MEN

Introduction:

Post void residual volumes are frequently measured in the assessment of men with lower urinary tract symptoms (LUTS). However, there is little data to help interpret these measurements. There is considerable variability in the residual volumes recorded on the same day in the same man in patients with LUTS suggestive of bladder outlet obstruction (BOO) (1).

The observation of post void residual urine (PVR) is commonly taken as a sign of BOO, but previous work has shown only a weak association (2). A "significant" PVR has been used as an indication for TURP when associated with a poor flow-rate, but this combination can equally result from detrusor underactivity in which case surgery would not be of benefit.

Aims of Study:

This retrospective study of large PVRs aimed to review the urodynamic diagnosis of all neurologically normal men who were found to have a PVR of >200ml on 1 or more measurements made during free uroflow studies.

Methods:

Retrospective review of the urodynamic diagnoses of neurologically normal men who had previously been noted to have a residual urine measurement of >200ml on ultrasound scanning of the bladder, on 1 or more recordings, during flow clinic attendance.

The PVRs of all men attending the flow clinic at the Urodynamic Unit of Southmead Hospital during a 24 month period over 1999 and 2000 were reviewed. All those with any recorded PVR >200ml were noted and checked to see if they had subsequently undergone pressure-flow studies (PFS) in the following 12 months. The department policy is to do PFS if transurethral resection of the prostate (TURP) is being contemplated. A standard technique is used: 50ml/min filling rate, 8Fr filling catheter removed at the end of filling leaving an epidural catheter for measurement of pves, and time alone to void. The urodynamic notes on all of those who had undergone pressure-flow studies were reviewed with respect to diagnosis, Qmax, pdetQmax, voided volume, and residual volume.

Results:

Men with PVR's >200ml: 655

63 subsequently had PFS. 11 of these had neurological lesions and were excluded.

Diagnoses:

Of 52 men with PVR >200ml and neurologically normal:

BOO	Equiv BOO	Underactive	DI only	Diverticulum
26	9	11	4	2

Mean Qmax: BOO=7.6, Underactive=8.3 ml/s

Conclusions:

50% of men with PVR >200ml had no definite evidence of obstruction on PFS. 17% had equivocal PFS (BOOI=20-40), and 21% were found to have detrusor underactivity.

This study provides further evidence that PVR is a poor guide to the presence of BOO. In this series there is little difference in the Qmax between those who tend to have BOO compared to those with detrusor underactivity and no BOO. As neither PVR nor Qmax can be used to distinguish between BOO and detrusor underactivity, it is suggested that PFS should be performed in order to accurately define the cause of the patient's symptoms and to direct effective management.

Men with raised PVR's (greater than 200mls) should have PFS if invasive surgery is contemplated which aims to relieve BOO.

References:

Br J Urol 1988; 62:571-575

Br J Urol 1979; 51:129-131