URODYNAMIC INVESTIGATIONS OF THE LOWER URINARY TRACT — EARLY EXPERIENCES AND OBSERVATIONS IN MALE PATIENTS

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INTRODUCTION

Urodynamics is a relatively new modality of investigation of the lower urinary tract in Singapore. It has not caught on locally as a standard investigation probably because of the high cost of the equipment and of the scepticism that still exist around it.

However, urodynamic is presently the only form of dynamic investigation and hence most accurately reflects the function of the urinary tract. It has been quite well shown for instance that bladder outlet obstruction can no longer be reliably diagnosed on cystourethroscopy alone.

METHOD AND MATERIAL

The University Department of Surgery acquired the 6 channel Disa urodynamics equipment in April 1985. From May 1985 till August 1986 we have carried out investigations on 98 patients with voiding dysfunction.

Of these 58 patients are males and this paper is a report on our early experience and observations on this group oif patients. We are still in the initial stages of exploring the usefulness of urodynamics. As such we have not laid down strict indications for carrying out the investigations. In general our aim has been to try and find a cause for the patients' symptoms. We have been especially interested in those patients who have no overt neurological lesion to account for their urological difficulties.

Of the wide range of urodynamic investigations, we have only carried out the mictiometry and filling and voiding cystometry. We have just started on EMG studies and have not yet embarked on synchronous pressure-video cystometry.

RESULTS

The age distribution of this groups of patients is shown in Fig. 1.

There were 37 "normal" patients in whom we could not find a neurological problem. 21 patients had some form of neuropathy and these included 9 patients with diabetes mellitus, 6 patients with spinal trauma, 4 patients with congential spinal lesions and 2 with cerebrovascular accidents (Table 1). 12 patients in this group were more than 50 years of age. These were patients with diabetes mellitus and cerebrovascular accident.

TABLE 1: TYPES OF NEUROPATHY

Diabetes mellitus	9
Congential	4
Traumatic injury	6
Vascular accidents	2

We have divided the symptommatology of patients into 3 groups (Table 2). The first group are those who present with purely obstructive symptoms. Those include complaints of hesitancy, poor stream, straining to void and terminal dribbling. The second group of 24 patients are those complaining of frequency, nocturia and urgency or a combination of these symptoms. And a third group consist of 22 cases who complain of obstructive symptoms associated with frequency. nocturia and/or urgency.

TABLE 2: SYMPTOMMATOLOGY

Obstructive	12 cases
FNU	24 cases
Both	22 cases

From this group of patients we clinically diagnosed 19 patients to have bladder outlet obstruction due either to an enlarged prostate, bladder neck obstruction or urethral stricture. 13 cases were diagnosed to have bladder instability on clinical grounds and 5 patients were thought to have a psychogenic element to their voiding problem. 21 cases were diagnosed to

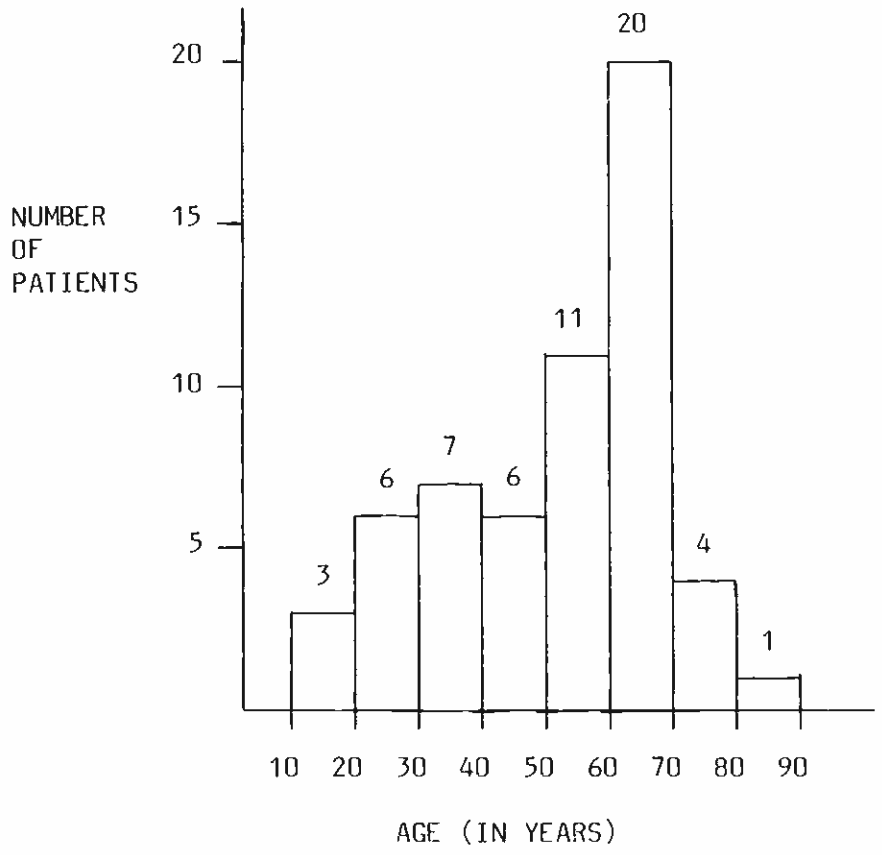

Fig 1. Age Distribution of Patients

have "neuropathic" bladder in view of their overt neurological lesions or history of diabetes mellitus. (Table 3).

TABLE 3: CLINICAL DIAGNOSIS

Obstruction	19 cases
Instability	13 cases
Neuropathic	21 cases
Psychogenic	5 cases

We correlate the clinical diagnosis to the urodynamic diagnosis and found that in 19 patients diagnosed clinically to have obstruction, urodynamics confirmed it in 16 patinets (84.2%). However there was no evidence of instability on urodynamic assessment in any of the patients diagnosed clinically to have unstable bladders.

Of interest also is that 7 patients presenting with frequency, nocturia and urgency or a combination of these symptoms were found to have urodynamic evidence of obstruction with no instability. 2 patients have had their prostates resected and 1 patient underwent an optical urethrotomy for a stricture. The other 4 patients are managing with their symptoms.

Cystoscopic examination was carried out in 14 patients before urodynamics studies. All these were found to have normal cystoscopic findings. In fact, these patients were subjected to urodynamic studies because of normal finding on endoscopy. Of these, 12 showed urodynamic evidence of obstruction. But none of these have undergone surgery yet.

In the group of patients with overt neuropathy or diabetes mellitus, most of them were found to have obstruction. However this group will require more elaborate studies the pressure video-cystometry to determine the site and nature of the obstruction. 2 patients in this group were found to have detrusor instability.

TABLE 4: CORRELATION BETWEEN CLINICAL AND URODYNAMIC

Clinical Diagnosis	Urodynamic Diagnosis			
	Normal	Neuropathic	Obstruction	Unstable
Obstruction	2	0	16	1
Instability	6	0	7	0

DISCUSSION

Analysis of urodynamic investigations carried out in this small series of 58 male patients has revealed some interesting results.

We have found that the free flow rate is a useful basic screening test for patients with obstruction symptoms. Among these patients we have only found one with unstable contractions during cystometry. This is quite different from work of others who have reported that up to 75-80% of men with prostatic obstruction have unstable detrusor behaviour (1).

Amongst the patients presenting with frequency, nocturia and urgency, we have found that none of those investigated had unstable contractions. We suspect that these symptoms arise because of a sensory rather than a motor problem in the bladder. However, we are unable at the moment to offer any explanation as to why the incidence of instability should be so low.

It is well established that cystoscopy is not an accurate method for diagnosis of bladder outlet obstruction. Very often large prostates do not give rise to symptoms and small prostates can cause obstruction. Hence bladder outlet obstruction cannot be proven or diagnosed by cystoscopy. So far many of us involved in transurethral resection of prostates have depended on urethrocystoscopic findings to decide on the need for surgery. Perhaps we should change this attitude and rely on more objective form of establishing obstruction before subjecting patients to surgery.

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