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IS AMBULATORY MONITORING CLINICALLY USEFUL IN THE ASSESSMENT OF PATIENTS WITH INCONTINENCE

Hypothesis / aims of study

Conventional cystometry is performed in the evaluation of patients complaining of incontinence. However, the symptoms may not be reproduced and a diagnosis cannot always be established. In this situation, ambulatory monitoring (AM) may be performed. AM is a more time consuming, invasive procedure and it is therefore important to validate its clinical usefulness. Although there have been numerous articles reporting on AM in the research setting, few have described it's clinical application[1,2], and its effect on work load. The aim of this study was to assess the impact of AM in patients with incontinence in terms of clinical and urodynamic diagnosis.

Methods

Over a 36 month period (Dec2000-Dec2003), 162 patients were referred for ambulatory monitoring (AM). The notes from 128 of these cases were reviewed retrospectively, in patients who had been investigated with urinary incontinence during this period. All patients had at least one conventional cystometry study performed prior to AM. During AM patients kept a diary of events so that AM findings could be correlated with symptoms. The presenting symptoms were recorded and the results of conventional cystometry were compared with those of AM.

Results

Nineteen men and 109 women underwent both conventional cystometry and AM. The patients were categorised into 3 groups based on symptoms: 1. Stress leak without storage symptoms; 2. Storage symptoms with urge incontinence; 3. Symptoms of both stress and urge incontinence. Urodynamic results are tabulated below.

Group 1: stress leak (N = 31)

			AM RESULT		
	USI*	**USI +DO#**	**BOO**+DO**	**DO/UUI##**	**NORMAL**
CMG RESULT					
USI (N=14)	5	2	0	4	3
USI+DO (N=1)	1	0	0	0	0
BOO (N=1)	0	0	0	0	1
DO/UUI (N=1)	0	0	0	1	0
NORMAL (N=14)	4	0	0	5	5

Group 2: storage symptoms with urge incontinence (N=34)

			AM RESULT		
	USI	**USI+DO**	**BOO+DO**	**DO/UUI**	**NORMAL**
CMG RESULT					
USI (N=0)	0	0	0	0	0
USI+DO (N=0)	0	0	0	0	0
BOO (N=1)	0	0	0	1	0
DO/UUI (N=13)	0	0	2	11	0
NORMAL (N=20)	0	0	0	16	4

Group 3: symptoms of both stress and urge incontinence (N=63)

			AM RESULT		
	USI	**USI=DO**	**BOO+DO**	**DO/UUI**	**NORMAL**
CMG RESULT					
USI (N=33)	6	3	0	19	5
USI+DO (N=3)	2	0	0	1	0
BOO (N=0)	0	0	0	0	0
DO/UUI (N=15)	1	2	0	11	1
NORMAL (N=12)	0	0	0	6	6

Interpretation of results

Overall, 46/128 (35.9%) conventional studies and 25/128 (19.5%) AM studies revealed no abnormality. Of the 46 patients who had a normal CMG study, 31(67.4%) patients had a positive urodynamic finding, consistent with symptoms, identified on AM. Urodynamic stress incontinence (USI) alone was diagnosed in 47 patients on the basis of conventional cystometry. AM confirmed USI alone in 11 patients, USI and detrusor overactivity in 5, and detrusor overactivity associated with urge incontinence in 23 (53.4%). In 8 patients a normal study was noted. This had a marked impact on the patient's clinical management.

Within the subgroup of 31 patients that had a strong clinical history of stress incontinence, 15 were shown to have urodynamic stress incontinence during conventional studies. 12 patients were found to have USI on ambulatory monitoring, although, only 8 correlated with the conventional study group. Of the remaining 19 patients, 9 had a normal study and 10 were shown to have detrusor overactivity associated with urge incontinence, confirming that stress incontinence is not a reliable symptom.

Concluding message

AM is more sensitive than conventional cystometry in detecting urodynamic abnormalities. In particular, it is a clinically useful test for symptomatic patients who have had a normal CMG study: in our series, the diagnosis was established in 67.4% patients. Over 50% patients who had USI diagnosed on conventional cystometry were found to have detrusor overactivity with urge incontinence, and not USI, on AM. This has implications for patient management and requires further study. In summary, even though AM is invasive and time consuming, it is a clinically useful test in the assessment of patients with incontinence and may provide a higher diagnostic yield than conventional cystometric studies. Our study also further illustrates that symptoms alone cannot be relied upon to make a diagnosis.

References

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*USI=urodynamic stress incontinence, #DO=detrusor overactivity, **BOO=bladder outflow obstruction, ##UUI=urinary urge incontinence