

DOES DETRUSOR OVERACTIVITY EVER CEASE? REPEAT URODYNAMIC TESTING AT 1 TO 9 YEARS.

Aims of Study

Little is known about the natural history or progression of pure idiopathic detrusor overactivity (IDO). Few studies of repeat urodynamic tests have been performed in IDO. We do not know whether the condition ever spontaneously regresses to normal, nor what percentage of cases become stable, after therapy, in the longterm.

Previous authors have considered the issue of test-retest reliability in normal controls when urodynamic studies (UDS) were performed on the same day (1) or up to two months later (2). Only one longterm study, published in the pre-oxybutinin era, assessed the persistence of urodynamically proven IDO in 37 women (3). They found the maximum detrusor filling pressure remained within 15 cm H₂O of the baseline study in 73%. Some subjects had been given drug treatment in the interim but they were not characterized separately. The authors did not reveal whether IDO ever spontaneously regressed.

The aim of this study is to investigate the natural history of IDO, over a maximum of 10years. That is whether IDO ever regresses without pharmacotherapy, and what percentage become stable in the longterm after a period of pharmacotherapy. Also to establish whether phasic and non-compliant forms of IDO remain consistent over time or whether these forms of the condition may be interchangeable over time.

Methods

A retrospective study of all women with urodynamically proven pure IDO who attended our Unit between its opening in July 1992 and December 2001, and who had had at least two urodynamic studies performed. Any drug treatment was noted. In our unit, patients with IDO were uniformly given bladder training instructions +/- oxybutynin or tolteridone. Patients with a diagnosis of pure IDO who failed to become continent with anticholinergic therapy sometimes underwent repeat urodynamics on therapy to exclude coexistent genuine stress incontinence that may not have been evident at the first test (dependent upon symptomatology).

Subjects were identified from the urodynamic results database. Notes of all those with pure IDO, sensory urgency (SU) (ie. first desire less than 150mls and maximum capacity less than 400mls with a stable bladder) or normal studies were hand searched to see if they had had more than one investigation including a diagnosis of pure IDO at one point. Original urodynamic traces were uniformly scrutinized. Results were grouped according to the trends demonstrated by Figure 1.

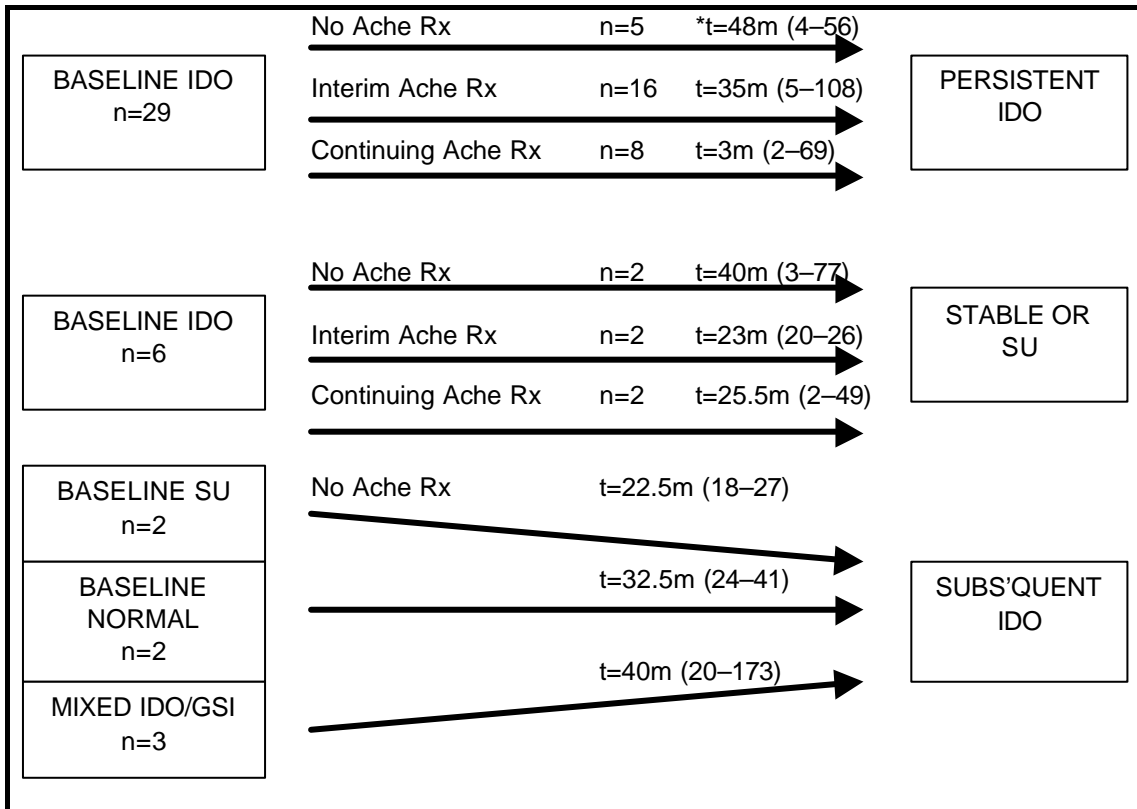
Results

The search has so far identified 42 women with at least one diagnosis of pure IDO and at least two UDS (range 2-6). Median age at first UDS was 54yrs (IQR 41-68.5yrs, range 22-83). Median time between the first and second UDS was 26.5months (IQR 5-48months, range 2-173).

Analysis is ongoing, results accrued to date are described.

In summary, 29 of 42 subjects (69%) who underwent repeat UDS had persistent IDO regardless of treatment. All of those receiving no treatment, eg. on placebo arm of controlled trial, remained unstable. When IDO was treated with interim anticholinergic therapy it was seen to persist at the second study in 24 of 28 cases (85.7%)(upper section of Figure 1).

Figure1. Longterm patterns of detrusor overactivity.
 * t = median time interval of UDS in months.



There were two cases of spontaneous regression of IDO in which SU was found on the second UDS (ambulatory studies were not generally available). In another four cases (total 6/35=17.1%), where anticholinergic therapy had been prescribed, IDO was no longer apparent at the subsequent UDS.

Phasic IDO remained so in 26% of cases. Non-compliant IDO also did not change in 10% of cases (data not shown). However, in 28% cases phasic IDO shown on the first UDS was found to be non-compliant on the second UDS. Similarly non-compliant IDO became phasic on the second UDS in 50% of cases.

Conclusions

To our knowledge this study describes the first representation of the longterm pathophysiology of IDO in patients who have been treated with modern anticholinergic therapy. It would appear that the majority of patients with IDO have a persistent unstable detrusor at a range of 1-9years despite conventional therapy. This has not previously been demonstrated. The interchangeability of non-compliant and phasic IDO was also a surprising finding.

References

1. Short-Term Reproducibility of Cystometry and Pressure-Flow Micturition Studies in Healthy Women. IntJUrogyn 2001; 12: Suppl 3, 98.
2. Urodynamic investigations and their reproducibility in healthy postmenopausal women. ScanJUrolNephrol 1998; Suppl114: 42-47.
3. A long-term Study of the Persistence of the Urodynamic Characteristics of the Unstable Bladder. BrJU 1981; 53: 310-314.