

REVIEWING THE DEFINITION OF URGENCY: HOW SUDDEN IS A COMPELLING DESIRE TO PASS URINE WHICH IS DIFFICULT TO DEFER?

Hypothesis / aims of study

Urgency is a pathological sensation and considered to be one of the most bothersome lower urinary tract symptoms. It has been defined by the International Continence Society as a sudden compelling desire to pass urine, which is difficult to defer, and is the keystone symptom in overactive bladder syndrome (OABS). Although the definition was introduced to make studies on OABS and urgency more standardized, much confusion still exists on the differentiation between urgency and a deferred strong desire to void. The perception of a compelling desire occurring after the perception of a first and strong desire to void, may be considered normal, as this can be experienced by most. A perception of a "sudden" compelling desire to void without previous warning of bladder filling is a quiet different event and an even more bothersome one. Data on the unexpected, untimely or sudden character of the perception of compelling desire are lacking. This study aims at improving this knowledge by looking into the sensations of bladder filling during cystometry in patients complaining of a compelling desire to pass urine.

Study design, materials and methods

The sensations of bladder filling (not related to DOA) were evaluated in patients complaining of a compelling desire to void during a conventional cystometry. Only patients with cystometrically objectified DOA (20 male and 23 female patients, 59 ± 19 years old) were included for the analysis. They were asked to report with some description all filling sensations they perceived, while their bladder was retrogradely filled at 30 ml/min. A first desire to void was defined as a sensation that normally would lead a person to pass urine at the next convenient moment, but voiding can easily be delayed. A strong desire to void was defined as a persistent desire to void that would lead one to start actively to search for a place to void, but voiding can still be delayed. These normal sensations are also termed "warning (of bladder fullness) sensations" in this study. Compelling desire to void difficult to defer was noted as it occurred as a separate sensation.

Results

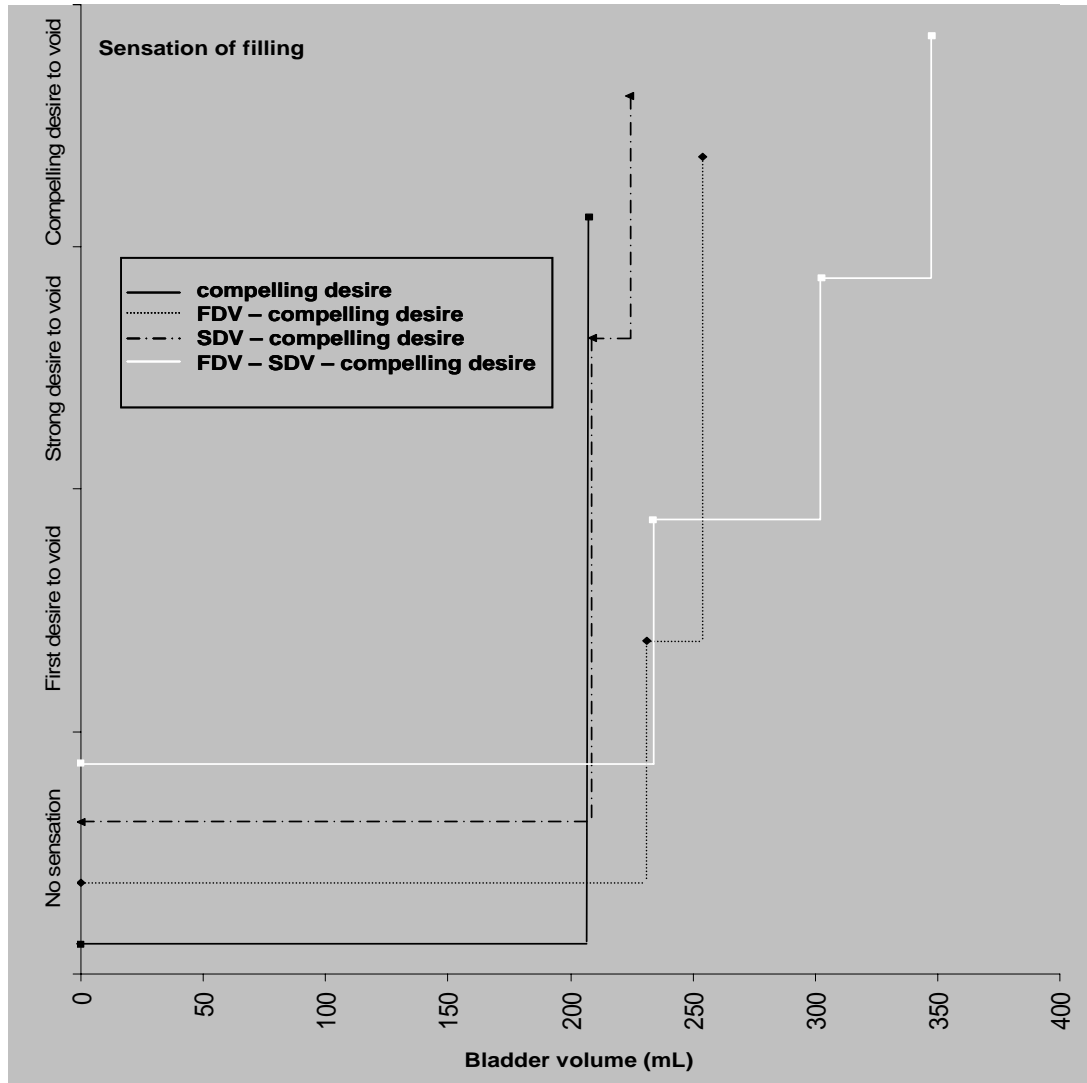
Four different types of bladder sensation patterns were observed all including compelling desire to void. Ten patients (23%) only reported a sudden compelling desire (with no warning sensation), 6 (14%) a first desire to void followed by a compelling desire (one warning sensation), 7 (16%) a strong desire to void followed by a compelling desire (one warning sensation), and 20 (47%) a first desire followed by a strong desire to void, which ultimately led to a compelling desire to void as voiding was postponed (two warnings sensations). The patterns are illustrated in the graph.

Data on the filling sensations in the different groups are shown in the table. The volumes at which the warning sensation and the compelling desire to void were perceived in patients with one warning sensation (first desire or strong desire) were not significantly different (p-values 0.69 and 0.75), and therefore these are grouped for further analysis. No differences in detrusor pressures at sensations were noted between the groups.

Group	Volume at 1st warning sensation	Volume at 1st compelling desire	Volume between warning and compelling desire
No warning sensations (n = 10)	/	208 ± 92	/
One warning sensation (n = 13)	219 ± 86	238 ± 92	19 ± 22
Two warning sensations (n = 20)	234 ± 92	348 ± 109	114 ± 83

Volumes (mL) are expressed as mean ± standard deviation

No difference was noted in the volume at compelling desire between patients with no warning or one warning sensation ($p=0.49$). However these volumes were significantly smaller compared to patients with a normal sensation pattern consisting of two warning sensations ($p< 0.004$). Furthermore the volume between the warning sensation and the perception of a compelling desire was significantly smaller in patients with a disturbed sensation pattern (one warning sensation), compared with patients with a normal sensation pattern (two warning sensations) ($p=0.0004$).



Interpretation of results

Our data show that patients with DOA who complain about compelling desire to void consist of different groups: some get warnings of bladder filling which if deferred continue into a compelling desire to void difficult to defer. Following ICS definition these patients do not have proper urgency. Some patients however have little (one warning) or no warning before compelling desire to void occurs and this sudden sensation corresponds fully with the urgency definition. Our data also show clearly that the volume between warning sensation and compelling desire is significantly smaller when sensory warning of bladder filling is limited. To differentiate between these groups of sensory patterns seems necessary in diagnostic and therapeutic research.

Concluding message

This observational study shows that different patterns of bladder filling sensation are present in patients with OABS complaining of compelling desire to void difficult to defer. Not all report urgency as defined by ICS.

