Abstract #446: ACCURACY OF ICD 10 CODE FOR THE DIAGNOSIS OF OVERACTIVE BLADDER

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Introduction

As defined by the International Continence Society (ICS), overactive bladder (OAB) is a symptom-based condition characterized by "urinary urgency, usually with urinary frequency and nocturia, with or without urgency urinary incontinence." Urinary urgency (UI) is defined as a "a sudden, compelling desire to pass urine which is difficult to defer. The sine qua non for OAB is urinary urgency (UU); if there is no urgency, one should not use the term OAB. The definition of urgency, though, has been riddled with controversy, and several different subtypes have been described. For example, urgency has been described as "an intensification of the normal urge to void" or it may be described as "a completely different sensation." The implications of this distinction are important insofar as they may have different etiologies and respond differently to treatment. [1] Further, urgency is difficult to quantify which poses an additional barrier in diagnosing OAB. The subtype of urgency that is described as an intensification of the normal urge to urinate suggests that urgency may be graded. Others, though, have opined that urgency is an "all of none phenomena" that cannot be graded" [2]. Another problem is how to classify patients who report that urgency occurs only occasionally. Some physicians may describe this as "mild OAB," while others may be reluctant to classify this as OAB. An additional challenge posed in diagnosing OAB, is that there are many other diagnoses that are associated with urgency, such as benign prostatic hypertrophy (BPH), pelvic organ prolapse (POP) and stress incontinence (SUI), Thus, we need to be mindful of the distinction between OAB, the symptom complex and its differential diagnosis.

Because urgency can be difficult for patients to describe and difficult to quantify, patients may be overdiagnosed and misdiagnosed with OAB. The aim of this study is to first, to determine how well the ICD code for OAB comports with the definition of OAB; i.e., how often is the term OAB misused to describe patients with symptoms not accompanied by urgency. Secondly, we sought to determine what other symptoms and conditions are erroneously labeled as OAB.

Methods

This was a retrospective review of a lower urinary tract symptom (LUTS) database for patients who had completed both a validated LUTS symptom score (LUTSS) [3] and a 24-hour bladder diary (24H BD) between 2015-2019. 128 patients were identified from the database and a chart review of each patient's electronic medical records (EMR) was performed to check for an ICD diagnosis of OAB (N32.81). Of the 128 patients identified in the initial database review, 45 patients had an ICD diagnosis of OAB and were included in this study. In addition to ICD codes, our chart review looked for documentation of anamnesis by scanning office notes for words compatible with urinary urgency or urge incontinence.

Patients documented their voids in a BD for a 24 hour period. The BD consists of the time of void and the respective Urge Perception Score rating. Urgency was defined on the BD as one or more voids that were rated as grade 4 on the Urge Perception Score. Within 1 week of filling out the BD, patients filled a LUTS questionnaire. The LUTSS is composed of 14 questions and has 6 domains, of which one domain is identical to the Overactive Bladder Symptom Score. A diagnosis of OAB was typified by a score of ≥ 8 with urgency documented by a score of 4 on Q3 or Q4 and a score of 3 or 4 on Q5 or Q6 (figure 1).

If the patient did not have documentation of urgency in the LUTSS, 24H BD, or medical records, the ICD code was considered to be a misdiagnosis and the reasons for the misdiagnoses were determined via chart review. For example, a diagnosis of OAB may have been erroneously chosen for patients that were described in the chart as having painful bladder symptoms or urinary frequency without urgency.

Results

We identified 45 patients from our review of the LUTS database who had an ICD diagnosis of OAB and completed both a 24H BD and LUTSS questionnaire. There were 25 women and 20 men, with a mean age of 55 (SD 15). The initial chart review performed looked at provider notes for documented anamnesis, or patient complaint of urinary urgency. Of the 45 patients diagnosed with OAB, 39 patients noted urgency, thus the ICD code was accurate in 87% of patients, while 13% of patients were misdiagnosed with OAB. The second review looked at the LUTSS questionnaire for urinary urgency as defined in Figure 1. Of the 45 patients diagnosed with OAB, 28 patients answer choices aligned with urgency, thus the ICD code was accurate in 62% of patients, while 38% of patients were misdiagnosed with OAB. Our third and final review looked at the 24H BD for urinary urgency as defined in Figure 2. Of the 45 patients diagnosed with OAB, 26 patients' diaries aligned with urgency, thus the ICD code was accurate in 58% of patients, while 42% of patients were misdiagnosed with OAB. We performed a Pearson Correlation test to determine the correlation between ICD diagnosis accuracy based on the method of urgency documentation: anamnesis, LUTSS, and 24H BD, listed in Table 1.

There was a significant weak positive correlation ($r=0.42$, $p<0.04$) between the ICD diagnosis and anamnesis. There was a significant weak negative correlation ($r=-0.19$, $p<0.00$) between the ICD diagnosis and the LUTSS questionnaire. There was a significant weak correlation ($r= 0.12$, <0.042) between the ICD diagnosis and the 24H BD. Of the patients who did not have urgency, diagnoses gleaned from chart review included such conditions as BPH, nocturia, LUTS and urethral stricture.

3. What is the reason that you usually urinate?	
0	Out of convenience (no urge or desire
1	Because I have a mild urge/desire (can delay urination > 1 hour)
2	Because have a moderate urge/desire (can delay urination 10-60 min)
3	Because I have a severe urge/desire (can delay urination for <10 min)
4	Because I have desperate urge/desire (must stop & go immediately)
4. Once you get the urge/desire to urinate, how long can you postpone it comfortably?	
0	More than 60 min.
1	About 30-60 min.
2	About 10-30 min.
3	A few min. (<10 min)
4	Must go immediately
5. How often do you get a sudden urge or desire to urinate that makes you want to stop what you are doing and rush to the bathroom?	
0	Never
1	Rarely
2	A few times a month
3	A few times a week
4	At least once a day
6. How often do you get a sudden urge or desire to urinate that makes you want to stop what you are doing and rush to the bathroom?	
0	Never
1	Rarely
2	A few times a month
3	A few times a week
4	At least once a day

Figure 1: Questions 3-6 in the LUTSS Questionnaire

Method	n (% positive out of 45 ICD dx)	Pearson Correlation (r)	p value
Anamnesis	39 (87)	<0.42	<0.04
LUTSS	28 (62)	-0.19	<0.00
24 H Diary	26 (58)	0.12	<0.042

Table 1: Likelihood that the ICD diagnosis (n = 45) included confirmation of urinary urgency based on the method of documenting urgency:

Anamnesis – all that was necessary for an "accurate" diagnosis was documentation that the patient complained of urgency, without defining what was meant by urgency;

LUTSS and BD - an "accurate" diagnosis required documentation of urgency as defined in the materials and methods.

Interpretation of Results

At first glance, the results of this study seem straightforward – in 87% of patients with an OAB diagnosis, urgency was confirmed by anamnesis, BD, and/or the LUTSS. Of those in whom the diagnosis of OAB was not confirmed, associated diagnoses included urinary tract infection (UTI), BPH, pelvic organ prolapse, nocturia, LUTS, and urethral stricture.

Granular questionnaires, such as the LUTSS and bladder diary serve as a check of diagnostic accuracy because they ask specific questions about the presence or absence of urgency. So, if a patient complained of urgency but denied any symptoms of urgency in the LUTSS questionnaire and/or bladder diary, it is likely that they were mis-diagnosed - the more specific the method of diagnosis of urgency, the higher the likelihood that patients were mis-diagnosed. This is most evident when one looks at the correlation between the ICD diagnosis of OAB and the presence of urgency based on the four questions in the LUTS questionnaire that deal with urgency; The accuracy of the ICD diagnosis in those patients declined to 62%.

There are a number of possible explanations for the discrepancies noted above. The likeliest is that both patients and physicians use the term urgency without a clear understanding of its scientific definition. For example, when asked what they mean by urgency, some patients say "I have to go to the bathroom too often," or have a constant feeling of the need to void, like an itch or they just wait too long once they get the urge and only void when it is compelling.

Whether any of these considerations have any impact of therapeutic outcomes for patients "mis-diagnosed with OAB is a topic worthy of further research.

Conclusion

Urinary urgency, a sudden and compelling need to void, is the sine qua non for the diagnosis of OAB. This study suggests that when granular questionnaires and bladder diaries, with specific questions about urgency are employed, approximately 40% of patients with an ICD diagnosis of OAB are mis-diagnosed because they do not have a compelling and sudden need to void.

More studies need to be done to determine whether or not these "misdiagnosed" patients respond differently to OAB treatments and whether they need different diagnostic and treatment algorithms. Simply documenting a patient's complaint of urgency in the EMR, without further clarification as to how "urgency" was defined often leads to misdiagnoses of OAB.

References

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