Assessing the Natural History of Lower Urinary Tract Symptoms without Incontinence in Women: What have We Learned and Where are We Headed?

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Following the natural history of various urologic disorders is well established in several of our subspecialties, most notably male voiding dysfunction, urologic oncology, stone disease, and pediatric urology. Indeed, a basic premise in our teaching to urologists-in-training is that the need for establishing timing and means of intervention are most often appropriately based on a careful analysis of the natural history of an untreated disorder. Knowing the likelihood that an asymptomatic 3-mm versus 8-mm proximal ureteral calculus will pass spontaneously will clearly affect management. It remains somewhat surprising, then, that there are very few data regarding the natural history of lower urinary tract symptoms (LUTS), including overactive bladder (OAB), in women, even as medical therapy for these conditions continues to burgeon at a remarkable rate.

In the current issue of the journal, Heidler et al provide some initial data on the incidence and remission rates of LUTS among continent women [1]. In this analysis of 223 fairly young women (mean age, 50 yr at baseline), the authors assessed both storage and voiding symptoms and noted an increase in the number of women reporting moderate to severe LUTS from 35.9% to 47.1% over 6.5 yr. Interestingly, a mean annual remission rate of 4.6% was noted, with no clear age dependency apparent for either the incidence or remission rate. Improvements were most likely in patients initially reporting urgency or frequency or both, whereas deterioration was more likely noted in patients reporting nocturia or incomplete emptying or both at baseline.

Data from this study, though of significant value, should be interpreted with some caution. Because the authors did not include the 218 women who reported incontinence at baseline or follow-up, these numbers overall likely represent an underestimate of the true incidence of LUTS and perhaps overestimate the remission, as data from other studies have suggested that those with incontinence would likely also have reported other urinary symptoms [2]. Additionally, although there were no clear age differences in remission or incidence rates in those with LUTS, one must interpret these findings carefully, in light of the young mean age overall. For example, it is certainly not clear on the basis of this study that there is a great likelihood of urinary urgency improving in a 73-year-old with urge incontinence. Studies evaluating prevalence of LUTS in women are, at best, conflicting with some showing a clear age trend in certain symptoms, suggesting low remission rates, and others showing variability over time [3,4].

The data from the study by Heidler et al [1] and others do provide a new framework for tracking LUTS in women on which we can build. Most data
available on both the prevalence and incidence of LUTS in women focus on urinary incontinence, presumably the symptom most bothersome to women. Interestingly, this assumption may not always be the case, as data from a Japanese health-screening survey of >4500 subjects suggests that even among a slightly older group of women (mean age, 60 yr) nocturia is as bothersome as incontinence, implying that establishing the natural history of LUTS, excluding incontinence, in women is useful information to convey when counseling many of our patients with LUT complaints [5]. Moreover, the prevalence of LUTS such as OAB, particularly among younger women, likely exceeds that of incontinence, and therefore studying the natural history of these symptoms appears to be a worthwhile and clinically meaningful exercise [6].

Ultimately, knowing the progression and remission rates of LUTS among women over extended periods of time, such as that reported in this month’s journal, may be most helpful in directing health policy and appropriate resource allocation, but what many patients are probably most interested in is how their symptoms are likely to change in the near future. For that information, perhaps the best information we have can be gleaned from the so-called placebo arms of several of the registration trials for OAB agents (typically 3–12 mo in duration). Because the patients enrolled in these studies nearly always completed voiding diaries, were asked about voiding symptomatology, and made frequent clinic visits, it is not clear that these data necessarily represent the natural short-term history of patients with OAB symptoms. Rather, they are more likely the result of a fairly regimented program of behavioral training and lifestyle adjustments, representing the best one might reasonably be expected to achieve without more intensive physiotherapy of pharmacologic management. In most of these studies (largely focusing on micturition frequency), sizeable improvements are typically noted early on (2–4 wk), with only modest further improvements achieved (with the rate of further improvement not greatly superior in the treatment arms) [7,8]. Virtually all other studies investigating mid- or long-term follow-up of LUTS in women use either some type of intervention, whether it is pharmacologic, a more rigorous behavioral program, or a combination [9] or they focus on OAB populations with incontinence [10]. Therefore, the value of this initial work reported by the group from Vienna is not to be underestimated.

Beyond the clinical impact, the true value of these types of studies is to provide further insight into the pathogenesis underlying urinary symptoms in women. The reliable progression of some symptoms, for example, suggests that ongoing vascular insult may underlie certain bladder disorders, as has been suggested in men with regard to prostate hyperplasia and erectile dysfunction, and has been shown in animal models of bladder ischemia [11,12]. Other symptoms are not necessarily as predictably progressive (eg, bladder urgency) and distinct mechanisms, such as urothelial dysfunction, could clearly explain the more intermittent nature of symptoms such as these [13]. Clearly, many of these mechanisms go hand in hand, but, ultimately, teasing apart the underlying etiologies of different urinary symptoms in women, when possible, should provide a more directed approach toward therapy of LUTS in the years ahead. It is hoped that in the near future, we can expand the number of tools in our fairly small toolbox.

Conflicts of interest

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References


