DECISIONS

Urinary urgency and frequency in a 53-year-old woman

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A healthy 53-year-old woman visits her family doctor regarding a one-year history of urinary frequency. She describes sometimes having a strong urge to void, with resulting urge incontinence not associated with physical activity, and requires one to two pads per day.

What diagnoses should be considered?

Several diagnoses can be considered for this patient, including urinary tract infection, stress or urge incontinence and overactive bladder. Lower urinary tract symptoms can include a combination of storage and voiding symptoms. Storage symptoms include frequency, urgency, nocturia, and stress and urge incontinence. Voiding symptoms include poor stream, hesitancy and incomplete voiding.[1]

A urinary tract infection is usually associated with dysuria, urgency and frequency in urination. Stress urinary incontinence is defined as involuntary leakage of urine on effort, exertion, sneezing or coughing. Urge urinary incontinence is leakage immediately associated with a sudden desire to void.[2]

Overactive bladder is defined as urgency, with or without urge incontinence, usually associated with frequency and nocturia.[2] Overactive bladder affects 14% of Canadians, with equal prevalence among males and females.[2] Of patients with the condition, two-thirds experience no incontinence and are generally dry.[3] Urgency is a defining symptom of overactive bladder and is described as a sudden desire to void that is often difficult to defer, which causes fear of leakage and incontinence. Frequency is defined as needing to urinate eight or more times a day. Nocturia is the need to urinate two or more times a night.[1]

Given the patient's symptoms, including urinary frequency, urgency and urge incontinence, and the lack of clinical signs for urinary tract infection, such as dysuria, overactive bladder is the most likely diagnosis.

What should be included in the physical examination of this patient?

According to the Canadian Urological Association, focused physical examination for overactive bladder includes abdominal (bladder overdistention) and pelvic examination in women, as well as a basic neurologic examination. The pelvic exam includes assessment for vaginal prolapse and vaginal estrogen status, and a cough stress test for stress urinary incontinence (grade C recommendation).[2] (The grades of recommendations are defined in Appendix 1, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.150255/-/DC1).

What tests should be ordered for this patient?

When overactive bladder is suspected, guidelines recommend limited investigations to rule out other causes of symptoms.[4] These include urinalysis for urinary tract infection and hematuria. Urinalysis should be done to rule out urinary tract infection and hematuria. Urine culture may be considered if the urinalysis result is positive for one of the following: leukocytes, erythrocytes and nitrites.

Guidelines recommend a postvoid residual urine test if the history indicates incomplete emptying.[4] The test can be done in the office by means of an ultrasound or bladder scanner, or by catheterization to measure residual volume if noninvasive means are unavailable.

What treatments should this patient be offered?

If investigations do not indicate another cause for the patient's symptoms, guidelines recommend lifestyle modifications as first-line treatment of overactive bladder: total daily fluid intake of about 2 L/d, and reduced intake of caffeinated drinks because they can promote urinary urgency.[4] Pelvic floor muscle training by an expert physiotherapist is also recommended by guidelines, especially if the patient is interested in nonpharmacologic therapy.[5] Lifestyle modifications can be combined with second-line pharmacologic treatment, depending on symptom severity and patient preference. Guidelines recommend that pharmacologic treatment be prescribed if optimal improvement with conservative management has not been reached within 8–12 weeks after the start of treatment.[5]

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The clinical scenario is fictional.

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Pharmacologic treatment for overactive bladder can be divided into two groups: antimuscarinic (anticholinergic) and non-antimuscarinic medications. Choice of treatment depends on physician experience, patient preference and insurance coverage. Possible adverse effects should be considered and discussed with the patient when deciding on treatment.[2] Recommended antimuscarinic medications include oxybutinin (oral or transdermal), tolterodine, solifenacin, darifenacin, trospium chloride and fesoterodine.[4] Possible adverse effects of antimuscarinic drugs are dry mouth, constipation, somnolence, blurred vision, pruritus, tachycardia, impaired cognition and headache and hypertension. Antimuscarinic drugs are contraindicated in patients with urinary retention and narrow-angle glaucoma.

Non-antimuscarinic medications include mirabegron, tricyclic antidepressants and desmopressin. A systematic review supports the use of mirabegron, a novel β_3 agonist specifically indicated for overactive bladder, because it causes relaxation of the detrusor muscle during bladder filling.[6] The starting dose is 25 mg once daily, and the dose can be increased to 50 mg/d depending on effectiveness. Common adverse effects include headache and mild hypertension. These effects are no more likely than with antimuscarinic drugs; however, mirabegron should not be prescribed to patients with severe uncontrolled hypertension.[6]

Pharmacologic treatment is usually recommended to be continued for as long as it is found to be effective and tolerated by the patient. A systematic review showed that average compliance for anticholinergic agents is 20%–30% by 12 months.[6] Consideration to stop medication can be based on assessment of adverse effects, treatment effectiveness and patient preference. If symptoms recur after pharmacologic treatment is stopped, restarting treatment should be considered if it was previously effective.

When should this patient be referred to a urologist?

Patients whose condition is refractory to treatment (no response to 8–12 wk of initial management with up to two different pharmacologic therapies) should be referred to a urologist for evaluation and additional treatment. Additional treatment could include intravesical injection of botulinum toxin A, sacral neuromodulation or percutaneous tibial nerve stimulation (grades A–C recommendations).[2]

Patients who initially present with symptoms suggestive of complicated overactive bladder (history of substantial pelvic pain, hematuria and recurrent urinary tract infection) should be considered for referral to a urologist. Guidelines recommend cystoscopic evaluation for this patient population.[5]

Case resolution

The patient had normal findings on physical examination and urinalysis. Overactive bladder was diagnosed, and a trial of conservative management was started. However, her symptoms persisted after six weeks. An antimuscarinic medication (solifenacin 5 mg/d) was prescribed. The patient reported substantial reduction of her urinary symptoms 4 weeks later and no adverse effects. Her condition will be monitored at regular follow-up appointments at 3, 6 and 12 months.

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