

Bladder involvement in thyroid dysfunction

Sir,

Thyroid dysfunction is a common problem, especially among women. Thyrotoxicosis is characterized by exaggerated responses to catecholamines, while in hypothyroidism, narrowing of adaptive responses is observed. It is, therefore, not surprising to see gastrointestinal and lower urinary tract symptoms (LUTS) in patients with thyroid dysfunction.

Unfortunately, published articles addressing voiding dysfunction in hyper- and hypothyroidism are scarce, most of them being case reports. In June 2012, we searched PubMed, Google Scholar, EMBASE, and Ovid for articles about these issues. The obtained results are as follows.

Most hypothyroid patients are middle-aged women. They may develop retention of urine and renal failure.^[1] This retention could be the presenting symptom or may be found incidentally in a patient who has other signs and symptoms of hypothyroidism like myxedema, malaise, a change in the tone of voice, and mental confusion.^[2] Paralytic ileus (colonic pseudo-obstruction) has been reported in association with bladder atony in the setting of hypothyroidism.^[1,2] Uremia may ensue as the result of urinary retention or acute kidney injury.^[3] In less severe cases, only a reduction in the voiding frequency and urine volume is observed without bothering the patient.^[4]

Hyperthyroidism is also more common among women. Patients may exhibit both irritative and obstructive LUTS.^[4] Of the LUT symptoms, urinary frequency is the most common.^[4,5] Other storage symptoms include urgency, urge incontinence, nocturia, and enuresis (either primary or secondary).^[4,6] Of the voiding symptoms, incomplete emptying and straining have been reported.^[4,5] Patients rarely complain of urgency, frequency, and enuresis; therefore, they should be asked about these symptoms in moderate to severe cases of hyperthyroidism.^[4]

Urodynamic study has been performed in a few cases and the findings include: Diminished flow rate, increased post-void residue, increased pelvic floor activity during voiding,^[5] early first sensation, and detrusor overactivity.^[6] Bladder capacity has been

reported to be normal, decreased,^[6] or increased.^[5] In a study, although the peak flow rate was significantly less than the control group, it was still in the normal range.^[4] Chung and colleagues followed up some 11,000 female hyperthyroid patients for 3 years and found that the risk of developing urinary incontinence in them was more than in the healthy, control group (hazard ratio = 1.54).^[7]

Bladder involvement may be the presenting symptom or may appear a few months after the onset of the thyroid disease and is responsive to proper medical therapy. However, complete improvement may take several weeks to a few months.

To better define the manifestations of bladder involvement in thyroid dysfunction, larger cohort of patients with thyroid problems should be evaluated for LUTS and urodynamic study be performed when indicated. Also, the incidence of thyroid dysfunction in patients presenting with LUTS should be determined.

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