FIVE THINGS TO KNOW ABOUT ...

Hypothyroidism

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Choosing Wisely Canada
In partnership with the Canadian Medical Association

1 In screening for primary hypothyroidism, only serum thyroid-stimulating hormone is required as a first-line test[1–3]

In the general adult population (excluding pregnant women and older people), a normal thyroid-stimulating hormone (TSH) level is defined as the 95% laboratory-specific reference interval (about 0.45–4.50 mIU/L).[1–3] In adults (other than in pregnancy), TSH values greater than 10 mIU/L or TSH elevations with low free thyroxine values are generally considered indications for levothyroxine treatment[1–4] (Appendix 1, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.141596/-/DC1).

2 Maintenance of a normal serum TSH level is the mainstay of biochemical follow-up of primary hypothyroidism

In general, maintenance of a normal TSH level (about 0.45–4.50 mIU/L) is the biochemical goal in primary hypothyroidism (Box 1);[5] age-specific target TSH levels have been recommended.[1–4] Higher upper limits of TSH targets are acceptable for older people (e.g., up to 6 mIU/L in patients aged > 65 yr, with consideration of comorbidities).[2,3]

Box 1: Choosing Wisely Canada recommendation on hypothyroidism

- Don't use free thyroxine or triiodothyronine to screen for hypothyroidism, or to monitor and adjust levothyroxine (thyroxine) dose in patients with known primary hypothyroidism.[5]

3 About a third of patients receiving treatment for hypothyroidism have TSH values outside the target range[1–3]

Annual TSH monitoring, with more frequent monitoring in special circumstances (e.g., pregnancy, major weight change or addition of potentially interacting medications), may facilitate appropriate dose adjustment.[3,4] If needed, the levothyroxine dose may be titrated with changes of about 12.5–25 µg, measuring TSH about four to eight weeks later.[1,4]

4 Coingestion of levothyroxine with food may cause impaired absorption and should be avoided[1,3]

Ideally, levothyroxine should be taken only with water at a consistent time, either one hour before breakfast or at bedtime more than three hours after the final meal of the day.[1,3] If an alternative schedule is chosen, it should be consistently maintained.

5 Coingestion of levothyroxine with medications or dietary supplements that may interfere with its absorption should be avoided[2,3]

Some medications (e.g., bile acid sequestrants, phosphate binders, aluminum-containing antacids) and dietary supplements (e.g., calcium, iron) may interfere with levothyroxine absorption. Ideally, a four-hour separation from taking levothyroxine is advised.[2,3] Lists of drugs that interfere are available.[1,3]

CMAJ is collaborating with Choosing Wisely Canada (www.choosingwiselycanada.org), with support from Health Canada, to publish a series of articles describing how to apply the Choosing Wisely Canada recommendations in clinical practice.

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