Expert Proposes Lower Normal Range for TSH

BY MITCHEL L. ZOLER

PHILADELPHIA — A lower normal range for thyroid-stimulating hormone would help physicians detect and treat more cases of occult hypothyroidism, Dr. Leonard Wartofsky said at the annual meeting of the American College of Physicians.

Based on common thyroid-stimulating hormone (TSH) levels among U.S. adults, a reasonable normal range is 0.4-2.5 microIU/mL, said Dr. Wartofsky, an endocrinologist and chairman of the department of medicine at Washington (D.C.) Hospital Center.

Although some other experts also endorse this or a similar TSH range as the new normal, it has not yet made its way into official recommendations by endocrinology groups. For example, the most recent TSH range endorsed by the American Association of Clinical Endocrinologists remained where it has been for several years, at 0.5-5.0 microIU/mL (Endocr. Pract. 2006;12:63-102). The National Academy of Clinical Biochemistry set an upper limit of normal for TSH at 4.1 microIU/mL in 2003 (Thyroid 2003;13:3-126), according to Dr. Wartofsky.

Other experts have warned that lowering the threshold for diagnosing hypothyroidism risks identifying and treating patients who have not been proven to face a substantial disease risk or to benefit from treatment (JAMA 2004; 291:228-38).

Dr. Wartofsky argued in favor of a lower normal range because of the way TSH levels are distributed among Americans. In the National Health and Nutrition Examination Survey (NHANES) III, which measured TSH levels in about 13,000 U.S. adults who were free from any suggestion of thyroid disorder during 1988-1994, the average TSH level was about 1.5 microIU/mL (J. Clin. Endocrinol. Metab. 2002;87:489-99).

Statistics show that about 97.5% of the U.S. population has a TSH level of less than 2.5 microIU/mL.

DR. WARTOFSKY

Among women, who have a higher risk for hypothyroidism compared with men, the average level was 1.39 microIU/mL in white women and 1.18 microIU/mL in African American women.

Based on the bell-shaped distribution of TSH levels among Americans, statistics showed that about 97.5% of the population has a TSH level of less than 2.5 microIU/mL, Dr. Wartofsky said in an interview.

Those patients with higher levels are worth examining further to detect unrecognized hypothyroidism.

He suggested that people younger than 60 years with TSH levels higher than 2.5 microIU/mL get retested a few months later. The second blood draw should also be tested for antithyroperoxidase antibody (anti-TPOAb). People whose TSH level remains high and who are antibody positive should start treatment for hypothyroidism with thyroxine, Dr. Wartofsky said. "They are destined to move on to overt hypothyroidism." In about a quarter of people with initially high TSH, the level will drop on retesting without any treatment.

People with persistently high TSH but without detectable anti-TPOAb fall into a gray area. They could start on thyroxine treatment, or they could defer treatment and get retested in a year. The decision to treat or not would depend on whether the patient had any signs or symptoms of hypothyroidism.

Exceptions to this strategy include women in early pregnancy, who normally have lower TSH levels than the healthy, general population.

In pregnant women, any TSH higher than 1 microIU/mL is "distinctly abnormal." TSH levels also seem to normally rise as people age. Among men and women aged 60-80 years, a TSH of 3.0 microIU/mL is reasonable. In those older than 80 years, the normal range can run as high as 4.0 microIU/mL, Dr. Wartofsky said. ■