Svetlana Ignjatović

LABORATORY SUPPORT FOR DIAGNOSIS OF HYPERHYROIDISM

Summary: Physicians need quality laboratory testing support for the accurate diagnosis and cost-effective management of thyroid disorders. Over the past forty years, improvements in the sensitivity and specificity of biochemical thyroid tests have dramatically impacted clinical strategies for detecting and treating thyroid disorders. Improvements in the sensitivity of assays to measure the pituitary thyroid stimulating hormone, thyrotropin (TSH) now allow TSH to be used for detecting hypothyroidism. Modern-day TSH methods with their enhanced sensitivity are Most of the current methods are capable of achieving a functional sensitivity of 0.02mIU/L or less, which is a necessary detection limit for the full range of TSH values observed between hypo- and hyperthyroidism. With this level of sensitivity, it is possible to distinguish the profound TSH suppression typical of severe Graves' thyrotoxicosis (TSH < 0.01 mIU/L) from the TSH suppression (0.01 – 0.1 mIU/L) observed with mild (subclinical) hyperthyroidism and in some patients with a non-thyroidal illness. Current thyroid tests are usually performed on serum by automated immunometric methods that employ specific antibodies. Methodology continues to evolve as performance standards are established and new technology and instrumentation are developed as laboratory support for diagnosis of hyperthyroidism.

Key words: hyperthyroidism, TSH, functional sensitivity, laboratory support