

PathMD™: Board Review Letter

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Clinical Chemistry - Thyroid

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1. A 34 year old female with history of hypothyroidism controlled with l-thyroxine comes to the office for her 8-week prenatal check-up. Her vital signs and physical examination are non-contributory. What is the appropriate management of the hypothyroidism in this patient?
 - a. Decrease the dose of L-thyroxine
 - b. Discontinue L-thyroxine
 - c. Measure the T4 concentration
 - d. Increase the dose of L-thyroxine
 - e. Observation and thyroid studies at 24 weeks
2. Which of the following statements regarding the management of hypothyroid patients during pregnancy is correct?
 - a. Thyroxine therapy needs to be discontinued
 - b. Thyroid hormone free levels increase during pregnancy
 - c. Continue the same dose of L-thyroxine
 - d. Thyroxine requirements decrease due to transient hyperthyroidism of pregnancy
 - e. None of the above statements is correct
3. Which of the following statements regarding the biological effects of thyroid hormone is correct?
 - a. Their biological effects are mediated by interactions between the hormone and cell membrane receptors
 - b. The thyroid hormone water solubility allows to permeate through the cell membrane and bind intranuclear protein receptors
 - c. The thyroid hormone receptors are free intracellular proteins with high specificity and affinity for thyroid hormone binding sites
 - d. A cellular transmembrane tyrosine kinase receptor mediates the biological effects of thyroid hormone
 - e. None of the above statements is correct
4. Which of the following is not a feature of Autoimmune Hashimoto thyroiditis
 - a. Antibodies to the TSH receptor
 - b. Anti-thyroglobulin antibodies
 - c. Anti-thyroid peroxidase antibodies
 - d. It may present as an enlarging thyroid gland
5. In Grave's disease
 - a. The radioiodine uptake is low
 - b. Thyroid Stimulating Immunoglobulins (TSI) are present in serum
 - c. The free thyroid is low
 - d. The thyroid gland shows nodular "hot" nodule
6. Which of the following statements regarding Euthyroid sick syndrome is correct
 - a. Anti-thyroglobulin is present in high concentrations
 - b. Results in an increase in the peripheral conversion of T4 to T3
 - c. Causes a marked elevation of TSH levels
 - d. The levels of Free T4 are normal in moderate illness

7. Which is the best indicator of thyroxine abuse?
 - a. Thyroglobulin level
 - b. Radioactive Iodine uptake
 - c. Anti-thyroid peroxidase level
 - d. Ultrasound of the thyroid
 - e. TSH level

8. Which of the following conditions will present with a reduced radioactive iodine uptake
 - a. Painless thyroiditis
 - b. Post-partum thyroiditis
 - c. Iodine-induced thyrotoxicosis
 - d. Amiodarone-induced thyrotoxicosis
 - e. All of the above will result in a reduced uptake of radioactive iodine

9. In the presence of a TSH secreting pituitary tumor
 - a. Hypothyroidism results due to hypothalamic suppression effect
 - b. Thyroglobulin decreases
 - c. Free T3 increases
 - d. Free T4 decreases
 - e. The radioactive iodine uptake decreases

10. Which of the following conditions does not usually result in hypothyroidism?
 - a. Autoimmune thyroiditis
 - b. Postpartum thyroiditis
 - c. Use of radioactive iodine for the treatment of Grave's disease
 - d. Subacute granulomatous thyroiditis
 - e. All of the above conditions may result in hypothyroidism

Notes for question set:¹

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