

# Lippincott's Illustrated Journal of Pharmacology

## Thyroid hormones & anti-thyroid drugs

1. A 29-year-old woman with complaints of fatigue and weight gain presents for her annual physical exam. Her TSH is 13.5 mIU/L (normal 0.5-4.7 mIU/L). Which of the following agents is most appropriate to treat the TSH abnormality?
- A. Levothyroxine
  - B. Liothyronine
  - C. Liotrix
  - D. Propylthiouracil

Correct answer = A. This patient presents with hypothyroidism as evidenced by high TSH. Levothyroxine is preferred due to its long half-life and better tolerability. Liothyronine (T3) and liotrix (T 3/T<sub>4</sub>) are not as well tolerated. Propylthiouracil is used in the treatment of hyperthyroidism.

2. A 26-year-old woman presents with complaints of irritability, tremor, and heart palpitations. A laboratory evaluation reveals a low TSH and high free T<sub>4</sub> concentration. She is currently in her first trimester of pregnancy. Which of the following treatments option is most appropriate for this patient?
- A. Methimazole
  - B. Propylthiouracil
  - C. Radioactive iodine
  - D. Surgical removal of the thyroid

Correct answer = B. Methimazole is generally preferred over PTU for the treatment of hyperthyroidism because it has a longer half-life and lower incidence of adverse effects. However, PTU is recommended in the first trimester of pregnancy due to a greater risk of teratogenic effects with methimazole. Surgery is not ideal in a pregnant patient. Radioactive iodine is contraindicated due to potential effects on the fetus.



3. A 24-year-old patient is given iodide to decrease the vascularity of the thyroid gland prior to surgery. What adverse effect is the patient most likely to experience?

- A. Sore throat
- B. Fatigue
- C. Heart palpitations
- D. Headache

Correct answer = A. Adverse effects of iodide may include sore mouth and throat, swelling of the tongue or larynx, rashes, ulcerations of mucous membranes, and metallic taste.

4. Which of the following symptoms indicates that a patient may need a lower dosage of levothyroxine?

- A. Bradycardia
- B. Cold intolerance
- C. Palpitations
- D. Weight gain

Correct answer = C. Palpitations are an adverse effect of too much thyroid supplementation. The other symptoms are indicative of untreated or undertreated hypothyroidism and may require an increase in thyroid supplementation

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