Thyroid disease – cram sheet (2025 BRC)

The most common cause of diffuse thyroid enlargement is Hashimoto thyroiditis.

Acute (suppurative) thyroiditis – most commonly bacterial; pain radiating to ear, tender and warm thyroid gland, fever, dysphagia, and dysphonia; often with normal TSH but elevated ESR and WBC count; ultrasound will show abscess; treatment with antibiotics +/- surgery

Subacute (DeQuervain's) thyroiditis – viral etiology; most common cause of a painful thyroid; viral prodrome; exam and labs do not look as sick as acute thyroiditis; variable course that usually spontaneously resolves without intervention; can use NSAIDs or steroids

Hashitoxicosis – transient hyperthyroidism that evolves into either euthyroid or hypothyroidism: +goiter, ↓TSH, normal or mildly ↑ T4 and T3, +TPO, +anti-TG antibody, ~10% with positive TRAb; uptake scan is decrease and patchy

Drugs that increase T4 clearance: phenobarbital, phenytoin, oxcarbazepine, rifampin

Drugs that disrupt peripheral T4/T3 conversion: glucocorticoids, amiodarone, PTU, propranolol

Drugs that affect T4 production/secretion: iodine, lithium, amiodarone

Drugs that decrease TSH production: dopamine, glucocorticoids, opiates, octreotide

Drugs that increase TSH production: dopamine receptor blockers, lack of cortisol

Iodine is the rate-limiting step in thyroid hormone synthesis – too much or too little iodine can impair thyroid hormone production

Profound primary hypothyroidism results in <u>elevated</u> prolactin, CK, liver function tests, creatinine, LDL and total cholesterol; and <u>decreased</u> IGF-1, erythropoietin (Hgb), and sodium.

Treatment of hypothyroidism is based on the TSH level and not the thyroid antibody. ~25% of children with a positive thyroid antibody will eventually require levothyroxine treatment.

Resistance to thyroid hormone: mutation in thyroid hormone receptor beta (TRβ) gene; most often autosomal dominant; elevated T4 and T3 with non-suppressed TSH

Graves disease: goiter, ↓TSH, ↑T4 and T3, +TRAb, usually +TPO, and +/- anti-TG antibody; uptake scan is elevated (>30%), diffuse, and symmetric

First-line treatment of Graves disease is a beta blocker; treatment for underlying problem involves anti-thyroid medication (methimazole), RAI, or surgery

Levothyroxine ingestion: no goiter, ↓TSH, ↑T4 and T3, ↓TG level, negative thyroid antibodies; decreased uptake scan (showing that thyroid gland is not hyperfunctioning)

Hyperthyroidism in a child with a birthmark (i.e. jagged borders (coast of Maine), does not cross the midline) – think about McCune Albright syndrome; 2nd most common endocrinopathy