Hyperthyroidism

Two major physiologic processes:

Increased Endogenous Hormone Production by Thyroid gland

COMMON
- **Graves** [ask about family hx]
- Toxic thyroid adenoma
- Toxic multinodular goiter

UNCOMMON
- TSH producing pituitary adenoma
- Choriocarcinoma
- Gestational hyperthyroidism

Other causes

INCREASED RELEASE FROM COLLOID
- Painful subacute thyroiditis [recent illness]
- Painless (silent) thyroiditis [post-partum]
- Radiation thyroiditis
- Infarction of thyroid adenoma
- Trauma

INGESTION
- Excess levothyroxine
- “hamburger thyrotoxicosis” – accidental bovine thyroid ingestion

DRUGS
- Amiodarone, lithium

Work Up

ORDERS TO CONSIDER
- TSH → free T4, T3
- Radioiodine uptake
- Antibodies
- Ultrasound

Radioiodine Uptake
- Graves → diffuse high uptake
- Toxic goiter or adenoma → focus of increased uptake, otherwise decreased uptake
- Cancer → usually functionally cold/hypofunctioning. Patient unlikely to present with hyperthyroidism symtpoms.

Antibodies
- TSH receptor antibodies (TSH-Rab)
- Can be stimulating or inhibitory
- Usually positive in graves. But not required for diagnosis

Ultrasound
- Generally not recommended even with abnormal function tests, unless palpable abnormality
- Useful for performing fine needle biopsy

Treatment

- Methimazole – get baseline CBC – watch out for agranulocytosis
- PTU – only used for 1st trimester of pregnancy

Commonly used options
- Antithyroid medications
- Radioactive iodine (ablation)
- Thyroidectomy

Symptom control / thyroid storm
- Betablocker (propranolol/atenolol)
- Hydrocortisone (prevents adrenal insufficiency)
- Potassium iodine drops

SPECIAL SCENARIOS
- **Toxic goiter / adenoma** → skip Antithyroid meds
- **Thyroid storm** → volume resuscitation, cooling measures, ICU monitoring
- **Gestational hyperthyroidism / hyperemesis gravidarum – associated thyrotoxicosis** → avoid antithyroid meds. Try supportive care

Garg's Simple Medicine

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