

Thyroid storm

The Burch-Wartofsky clinical scoring tool is often used to differentiate thyroid storm from symptomatic hyperthyroidism

- Temperature, cardiovascular dysfunction (tachycardia, atrial fibrillation, congestive heart failure), neurological status, GI-hepatic dysfunction, and presence of triggering events
 - Score >45 highly suggestive of thyroid storm
 - Score <25 making thyroid storm unlikely
- Treatment
 - Thionamides – Propylthiouracil (PTU) and Methimazole (MMI)
 - Both inhibit the synthesis of thyroid hormone within 1 to 2 h of administration but do not prevent the release of thyroid hormone already produced
 - PTU also blocks peripheral conversion of thyroxine (T₄) to the more biologically active hormone, triiodothyronine (T₃), leading to its preferential use in critically ill pts
 - MMI has possible teratogenic potential
 - β-adrenergic blockade
 - Should be started immediately unless contraindicated
 - Propranolol is the preferred agent because may prevent peripheral T₄ to T₃ conversion
 - Glucocorticoids
 - Hydrocortisone 300 mg IV dosing load followed by 100 mg IV q8h
 - Decrease T₄ to T₃ conversion and prevent adrenal insufficiency
 - Potassium iodide
 - Block the release of T₄ and T₃ from the thyroid gland; however, it should be administered at least 1 h after the patient receives a thionamide so that the iodine cannot be used for thyroid hormone synthesis
 - Thyroidectomy
 - Limited role in the acute management of thyroid storm
 - Option to treat Graves' disease definitively but should not be pursued until the patient is no longer acutely ill