Diagnostic Tests:

The leading diagnosis is new onset **Hyperthyroidism** and diagnostic workup was including ECG, CBC, CMP, free T3, free T4, TSH, TSI, and Thyroid Scan.

- 12 lead electrocardiogram/ ECG: Normal
- Complete Blood Count (CBC): Normal
- Comprehensive Metabolic Panel (CMP): Normal
- Free thyroxine (free T4), blood: Elevated FT4 level
- Free triiodothyronine (free T3), blood: Elevated FT3 Level
- Thyroid Scan: Increased uptake and distribution
- Thyroid Stimulating Hormone (TSH), blood: Suppressed below normal level
- Thyroid Stimulating Immunoglobulins (TSI), blood: Abnormal test

Medication: Anti-thyroid Drugs (Thionamides)

- Atenolol 25 mg 1 tab PO daily.
- Methimazole 10-30 mg/day orally given in 1-3 divided doses initially, adjust according to response; usual maintenance dose: 5-15 mg/day
- Radioactive iodine can be used as primary treatment or as salvage therapy after failure of antithyroid drugs (Thyroid ablation with radioactive iodine and steroid).
- Surgical resection and lifelong thyroid replacement.

***** Just something to consider, though this patient is beyond childbearing age, clients we treat with hyperthyroidism should have a pregnancy test completed prior to initiation of therapy and educated to contact their provider if they are pregnant or trying to conceive. In nonpregnant patients, methimazole is the drug of choice due to its less frequent side effects (especially hepatotoxicity), once-daily dosing, and more rapid achievement of normal thyroid function. During the first trimester of pregnancy, propylthiouracil must be used due to its less teratogenic side effects (Pokhrel, Bhusal, 2022). Pregnancy will alter the course of treatment.

Client Education:

- Patients who take radioactive iodine should wash their hands frequently, double flush the toilet, and avoid close contacts, especially with women and children, afterward. Patients who take antithyroid drugs should immediately report fever, rash, sore throat, or any symptoms of infection, and patients experiencing these symptoms should stop taking antithyroid drugs until their neutrophil count is confirmed to be normal (Epocrates, 2022).
- Educate patient on diagnosis, prognosis, and treatment options.
- Educate patient on side effect of antithyroid medication such as effects of medication on liver and kidney.
- Educate the patient on sleep hygiene to assist with insomnia.