



## A Case of Severe Dilated Cardiomyopathy and Hyperthyroidism

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### Introduction:

Thyroid hormone has a direct impact on the heart. It affects both inotropy and heart rate. Heart failure is a known complication of hyperthyroidism, precisely, high output heart failure and left ventricular hypertrophy (LV). Of those with heart failure, less than <1% develop severe (LV) dysfunction

### Case presentation:

The patient is a 65-year-old male with a history of hypertension who presented with dyspnea on exertion, bilateral lower limb edema of one week duration, weight loss, palpitations, and fatigue. Vitals showed elevated BP 143/81 mm of Hg, tachycardia with a pulse of 125 beats per minute, otherwise unremarkable with a body mass index of 23.3 kg/m<sup>2</sup>. Physical exam revealed no exophthalmos, a supple neck, no thyromegaly, no thyroid nodules, clear lungs, normal heart sounds, regular heart rhythm, tachycardia, normal reflexes, and 2+ edema of bilateral lower extremities up to the knees with no calf tenderness.) Labs confirmed hyperthyroidism, and echocardiography revealed moderate to severe dilatation of the left ventricle with an ejection fraction of 30-35%. He was managed for acute heart failure in the setting of hyperthyroidism with diuresis, methimazole, and metoprolol.

### Conclusion:

This case highlights the importance of thyroid assessment in patients presenting with heart failure, and the possibility of reversibility of the cardiac dysfunction. It also allows us to appreciate the balance between administering medications, such as beta-blockers, aimed at reducing hyperthyroid symptoms, with the management of heart failure, where beta-blockers might need to be held or administered at regular doses without escalation.

