

AMIODARONE INDUCED MYXEDEMA COMA PRESENTING WITH CARDIOGENIC SHOCK AND JUNCTIONAL RHYTHM

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Background: Amiodarone is a commonly used antiarrhythmic agent. It has variable effects on thyroid function, including hypothyroidism, hyperthyroidism, and, in few reported cases myxedema coma which is a life-threatening emergency.

Case: A 76-year-old male with a past medical history of hypertension and atrial fibrillation, who was recently started on amiodarone about 2 months before presenting with generalized weakness. He was found to be hypotensive and bradycardic with a heart rate in the 20s-30s beats per minute. His temperature was 35.9 Celsius. On physical examination: he was somnolent, his extremities were cold, no thyroid enlargement was felt, and no signs of volume overload were observed. His initial electrocardiogram revealed junctional rhythm with interventricular conduction delay. He received atropine with no improvement. He was started on dopamine and norepinephrine. Laboratory investigations were significant for elevated TSH (thyroid-stimulating hormone): 180 uIU/mL, decreased free T4 (thyroxine): <0.40 ng/dL and decreased free T3 (Triiodothyronine): 2.3 pg/mL. He also had hyponatremia, elevated creatinine, and hyperkalemia. Troponins were within normal limits and blood cultures were negative. Echocardiography revealed an ejection fraction of 35-45% with no evidence of pericardial effusion.

Decision-making: Based on his presentation and laboratory findings he was diagnosed with myxedema coma and was started on intravenous (IV) T4 (Levothyroxine), and IV T3 (Liothyronine) in addition to IV Hydrocortisone until the coexistence of adrenal insufficiency was ruled out. His heart rate improved, and his electrocardiogram changes resolved. He was weaned off vasopressors and his electrolytes and kidney function went back to his baseline. Five days after starting IV thyroid hormone replacement his TSH and T4 improved to 34.99 uIU/mL and 0.75 ng/dL, respectively. He was discharged home on oral Levothyroxine 88 mcg daily.

Conclusion: Myxedema coma is a life-threatening emergency that has been reported in a few cases of patients taking amiodarone. It is important to check thyroid function before starting amiodarone and in cases of cardiogenic shock or rhythm disturbances.