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Thyrotoxicosis mimic hepatitis in a 10-years amiodarone user

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Objective: Amiodarone related thyroid dysfunction is well-established in literature, and it may cause amiodarone-induced hypothyroidism (AIH) or amiodarone-induced thyrotoxicosis (AIT). Its manifestations are mostly asymptomatic, but some cases with severe or lethal presentation are also reported. The onset time of amiodarone related thyroid dysfunction is often weeks to months. Here, we present a 10-years amiodarone user who developed thyrotoxicosis with hepatitis.

Case Report: A 56-year-old man with history of paroxysmal ventricular tachycardia was treated with amiodarone for ten years. He suffered from intermittent fever, accompanied with nausea, vomiting, and general malaise. He denied diarrhea, dysuria, tea-color urine, clay stool, or abdominal pain. Body temperature: 37.6℃, blood pressure: 146/86 mmHg, heart rate: 75 per minute, respiration rate: 18 per minute. Physical examinations showed bilateral pulmonary rales by auscultation. Laboratory exams revealed ALT:286, AST:318, hsCRP: 6.23, Troponin-I: 0.03, Total Bilirubin: 1.1, BNP: 1793. Computer tomography with iodine contrast showed diffuse increased density of liver. Amiodarone or heavy metal related hepatitis was initially suspected. At the same time, we discontinued his prescription of amiodarone. Four days after admission, decompensated heart failure with acute pulmonary edema developed and thyroid function test showed T3: 2.72, T4: 2.67, TSH: 0.15, Thyroglobulin: 10.57, anti-TPO antibody: <10.0. Cardiac ultrasound showed decreased ejection fraction. Thyrotoxicosis induced decompensation of heart failure was diagnosed and we prescribed methimazole, propranolol, and diuretics. Unfortunately, we didn't arrange thyroid sonography and iodine uptake scan for him, which could have further differentiated the types of AIT.

Conclusion: The onset time is usually longer in Type 2 AIT than Type 1 AIT, and mostly the onset time of AIT is weeks to months. However, in our patient, it took ten years for thyrotoxicosis to develop. The possible reasons are excessive iodine loading by contrast media and discontinuing amiodarone. Some studies even suggested that discontinuation of amiodarone does not reduce the rate of AIT patients treated with anti-thyroid drugs and steroids. Although there was no evidence of the relationship between iodine contrast media and AIT, iodine may worsen AIT on the basis of toxic effect on thyroid gland by both amiodarone and iodine, causing destroyed thyroiditis (type 2 AIT). Conclusively, we should always keep in mind that acute exacerbation of heart failure may be a sign of AIT and be careful when using iodine contrast media in amiodarone users.