

Hypocalcaemia Inducing Heart Failure: A Rare Presentation

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Abstract : Introduction: Hypocalcaemia is a rare cause of heart failure. We report the clinical case of a young patient with reversible dilated cardiomyopathy secondary to hypocalcaemia in the context of hyperparathyroidism. Clinical case: We report the clinical case of a 23-year-old patient with a history of thyroidectomy for papillary thyroid carcinoma 3 years previously, who presented to the emergency room with a progressive onset dyspnea and edema of the lower limbs. Clinical examination showed hypotension at 90/70 mmHg, tachycardia at 102 bpm, and edema of the lower limbs. The ECG showed a regular sinus rhythm with a prolonged corrected QT interval to 520ms. The chest x-ray showed cardiomegaly. Echocardiography revealed dilated cardiomyopathy with biventricular dysfunction and a left ventricular ejection fraction of 45%, as well as moderate mitral insufficiency by restriction of the posterior mitral leaflet, moderate tricuspid insufficiency, and a dilated inferior vena cava with a pulmonary arterial pressure estimated at 46 mmHg. Blood tests revealed severe hypocalcemia at 38 mg / l with normal albumin and thyroxine levels, as well as hyperphosphatemia and increased TSH. The patient received calcium intake and vitamin D supplementation and was treated with beta blockers, ACE inhibitors, and diuretics with good progress and progressive normalization of cardiac function. Discussion: The cardiovascular manifestations of hypocalcaemia usually appear with deeply low serum calcium levels. This can lead to hypotension, arrhythmias, ventricular fibrillation, prolonged QT interval, or even heart failure. Heart failure is a rare and serious complication of hypocalcemia but most often characterized by complete normalization of myocardial function after treatment. The etiology of the hypocalcaemia, in this case, was probably related to accidental parathyroid removal during thyroidectomy. This is why careful monitoring of calcium levels is recommended after surgery. Conclusion: Hypocalcemic heart failure is rare but reversible heart disease. Systematic monitoring of serum calcium should be performed in all patients after thyroid surgery to avoid any complications related to hypoparathyroidism.

Keywords : hypocalcemia, heart failure, thyroid surgery, hypoparathyroidism

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