

A stormy chase of coronary artery spasm: Thyroid storm in acute myocardial infarction

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ABSTRACT

Introduction: Cardiovascular disease represents the largest cause of death globally with multifactorial causes. This is a case study of thyroid storm in acute myocardial infarction (AMI) resulting in hyperactive coronary arteries. **Case Description:** A 56 years old gentleman presented with left sided chest pain radiated to the neck. ECG showed shark fin pattern over inferior leads with reciprocal changes and cardiac enzymes were raised. Urgent invasive coronary angiogram revealed triple vessel disease with coronary artery spasm at multiple sites in which conservative approach was taken for the spasm as his blood pressure was too low to allow vasospastic treatment. He was intubated for acute pulmonary oedema post procedure and had persistent tachycardia with tachyarrhythmic episodes. Laboratory test revealed hyperthyroidism and he was treated for thyroid storm with Burch-Wartofsky Point Scale of 50 points. His clinical condition deteriorated rapidly with the development of acute kidney injury and severe metabolic acidosis. He eventually succumbed after 4 days of intensive care despite maximum multidisciplinary resuscitation effort. **Discussion:** Coronary artery spasm is a common finding in AMI with thyrotoxicosis. While intracoronary administration of nitrate or other vasospastic treatment can be effective in relieving coronary artery spasm, its role may be limited by hypotension. Patients who have cardiovascular disease with thyrotoxicosis may have poorer outcome compared to patients who do not have cardiovascular disease presenting as AMI. **Conclusion:** Routine thyroid function test screening in patients with myocardial infarction should be promoted to allow for early delivery of thyrotoxicosis treatment to improve mortality outcome.