

Abstract 32 Figure 1 Schematic diagram demonstrating the pathogenesis of ATTR amyloidosis (above) versus AL amyloidosis (below).

disciplinary team (MDT) discussion was sought and a lenalidomide based chemotherapy regimen commenced. AL amyloidosis was deemed a possibility given the dominant cardiac involvement and presence of IgG paraprotein.

Conclusions/Implications Cardiac amyloidosis is a form of restrictive cardiomyopathy caused by the progressive deposition of amyloid fibrils in the extracellular spaces of the heart. Individuals may present with features suggestive of cardiac involvement or, equally, in the context of extra-cardiac features alone. The two most common types of cardiac amyloidosis include transthyretin amyloidosis (ATTR amyloidosis) and light chain amyloidosis (AL amyloidosis). The presence of a monoclonal protein, in addition to echocardiographic or cardiovascular magnetic resonance (CMR) features support a diagnosis of cardiac amyloidosis. Tissue biopsy is not always required to confirm disease presence. Whilst the cornerstone of management in AL amyloidosis tends to be chemotherapy, in comparison, the treatment of ATTR amyloidosis currently remains largely supportive. We emphasize that a high index of suspicion is needed for clinicians to accurately diagnose cardiac amyloidosis. Early management is pertinent to delay progression, prevent complications and improve long term outcomes.

Conflict of Interest Nil

33 HEART AND THYROID: A STORY OF PARTNERS IN CRIME

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Background Association between the heart and the thyroid gland has been well-known for 200 years, from hyperthyroidism leading to cardiac arrhythmias and high-output heart failure to cardiovascular diseases in hypothyroidism through accelerated atherosclerosis and endothelial dysfunction. We present a case which demonstrates another conjunction between the heart and the thyroid.

Case Presentation A 32-year-old female presented to the A&E department with chest pain, vomiting, and generalized unwellness. She has been well previously, without any underlying medical disease. Her EWS score was 7 with tachycardia and high fever. Blood results showed microcytic anaemia, leucocytosis and raised C-reactive protein. She was treated for sepsis which later turned out to be infective endocarditis. Blood culture was positive for Staph aureus. The subsequent echocardiogram showed a vegetation of 1.2cm x 0.8cm at the posterior mitral valve (figure 1). Interestingly, she was found to be hyperthyroid from thyroid screening prompted by tachycardia presentation. Thyroid stimulation hormone (TSH) was high <0.01 (0.5-5 [IU/mL). TSH receptor antibodies and thyroid peroxidase (TPO) antibodies were also high. Carbimazole and beta-blocker were initiated. Despite antibiotic therapy, the patient required mitral valve replacement because of the vegetation size, persistently raised inflammatory markers and incompetent mitral valve. Surgical findings include large vegetation on P2 segment of the mitral valve, with deep abscess cavity underneath. She was discharged without further complications and her thyroid status normalized 3 months later with carbimazole.

Discussion Although thyrotoxicosis together with infective endocarditis is a rare presentation, any organ involvement is possible with endocarditis. There have been a few case reports



Abstract 33 Figure 1



Abstract 33 Figure 2

of suppurative thyroiditis or thyroid abscess in infective endocarditis. In our case, there have been no symptoms such as neck pain or swelling and thyroid gland appears normal from CT scan. Presence of TSH receptor antibodies and TPO antibodies suggest autoimmune thyroiditis nature.

Association between autoimmune thyroiditis and infected cardiac valves can be explained by several mechanisms. In Graves' disease, circulating TSH receptor autoantibodies activate mucopolysaccharide-secreting endothelial cells leading to thickening and myxomatous changes with likelihood of endocarditis in transient bacteremia. Conversely, various infections are suggested to trigger autoimmune thyroid disorders due to the release of sequestered antigens from inflammation and molecular mimicry of the infective organisms. Psychological stress is also a factor known to precipitate autoimmunity. Infective endocarditis reflects both.

Conclusion This case highlights the importance of thyroid investigation in the management of infective endocarditis. It

also illustrates the possible association between autoimmune thyroid disease and infective endocarditis. **Conflict of Interest** None

Acute coronary syndromes & Interventional Cardiology

34 INVESTIGATION OF THE EFFECTS OF DIETARY NITRATE ON VASCULAR FUNCTION, PLATELET REACTIVITY AND RESTENOSIS IN PATIENTS WITH STABLE ANGINA (NITRATE-OCT STUDY)

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Introduction Stable angina affects 1.3 million people in the UK. Stent implantation in diseased coronary arteries helps to reduce the symptoms of angina and the long-term risk of heart attacks. we, and others, have shown that nitric oxide (NO) delivery utilising the nitrate/nitrite/NO pathway improves endothelial function, decreases platelet reactivity and inflammation in humans and also improves vascular remodelling post vascular damage in pre-clinical studies. Beetroot is rich in inorganic nitrate, and its juice has been safely used to deliver fixed doses of inorganic nitrate that improve cardiovascular function in experimental medicines studies and in patients with hypertension and hypercholesterolemia. These beneficial effects have been attributed to the conversion of nitrate by oral bacteria to nitrite, and then the conversion of this nitrite, once swallowed and re-entered the circulation, to NO by vascular nitrite reductases. In this study, we investigated the impact of a once-a-day inorganic nitrate administration (6 months) on the rate of restenosis in coronary arteries following percutaneous coronary intervention (PCI) and stent implantation.

Methods NITRATE-OCT is a double-blind, randomised, singlecentre, placebo-controlled phase II trial that enrolled 300 patients with stable angina undergoing elective PCI. The patients were randomised to receive 70 ml of beetroot juice