008 PERICARDITIS PRESENTING IN PRE-RHEUMATOID ARTHRITIS AND ESTABLISHED DISEASE: A REPORT OF TWO CASES AND LITERATURE REVIEW

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Background: Case 1: A previously well 27 year old male was admitted with a two week history of malaise, sweats and left-sided chest and shoulder pain. Physical examination was unremarkable. Electrocardiogram and troponin were normal but blood tests revealed an elevated C-reactive protein (CRP) of 143mg/L, haemoglobin (Hb) 94g/L and a thrombocytosis. White cell count (WCC) and renal function were unremarkable.

A chest x-ray (CXR) revealed cardiomegaly, suggestive of pericardial effusion. Computed tomography scan confirmed a 2cm pericardial effusion, with a thickened pericardium. Echocardiogram showed a small-moderate pericardial effusion with no significant haemodynamic compromise.

An extensive aetiological screen (including bacterial and viral screening, T-spot, anti-nuclear antibody (ANA), double-stranded DNA antibody, extractable nuclear antigen, anti-neutrophil cytoplasmic antibody, rheumatoid factor (RF) complements, immunoglobulins, and HLA-B27) was negative. Anti-cyclic citrullinated peptide (CCP) antibodies were strongly positive (193 U/L). Ferritin was raised (639ug/l) but not sufficiently to suggest adult onset Still's disease.

The patient partially responded to regular diclofenac. However this was poorly tolerated and a course of oral corticosteroids was commenced, to good effect. CRP fell to 19 and Hb rose to 127.

Case 2: A 39 year old female with longstanding seropositive erosive rheumatoid arthritis was admitted with a three month history of exertional breathlessness and intermittent aching left-sided chest pains. Anti-rheumatic treatment was with methotrexate, hydroxychloroquine and abatacept. Previous biologic treatment was not tolerated: etanercept (flu-like symptoms); rituximab (anaphylaxis). Her concordance was poor and she had required several steroid courses for extra-articular manifestations of disease including pleurisy and small vessel vasculitis.

Electrocardiogram was unremarkable, CXR revealed cardiomegaly, and echocardiogram showed mild hypokinesia with preserved function and a 1.2cm pericardial effusion. Cardiac magnetic resonance (MR) imaging revealed global pericardial thickening resulting in constriction and hepatic congestion. Oral prednisolone was added.

MR imaging 12 months later was essentially unchanged but she became diuretic-dependent for progressive dyspnoea. Left and right heart catheterisation demonstrated pressure equalization and severe pulmonary hypertension. Total pericardiectomy was subsequently performed with almost complete resolution of her breathlessness. She remains on aggressive anti-rheumatic therapy.

Methods: Please see the background section.

Results: Please see the background section.

Conclusion: Pericarditis is a well-recognised complication of RA, occurring in 30-50% of patients although symptomatic in $<10\%$. It is more common in males, rheumatoid factor positive patients, those with destructive or nodular disease, and is associated with excess mortality. It typically presents in established disease but in some precedes arthritis onset. Echocardiogram is the gold standard investigation. Inflammatory pericarditis typically responds well to NSAIDs or oral corticosteroids but IV methylprednisolone may be required where large pericardial effusions result in tamponade. If undertreated, constrictive pericarditis may develop, causing surgically reversible heart failure. Infective aetiology such as tuberculosis should be considered, either as a primary or secondary phenomenon.

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