Letters to the Editor

Anti-TNF alpha therapy does not always protect rheumatoid arthritis patients against developing pericarditis

Sirs,

Pericarditis is a potentially serious complication of rheumatoid arthritis (RA) which is estimated to occur in 30-50% of patients of whom about 1-3% become symptomatic (1). Complications such as pericardial constriction or tamponade are rare but life threatening. Our Rheumatology service has encountered only two such cases of severe pericarditis over the past five years. As expected, both of our patients had a history of severe sero-positive RA, meeting the 1987 ACR revised criteria for RA. At the time of presentation, both patients were receiving anti-TNF alpha therapy which was controlling their arthritis. However, despite this fact, both developed severe, life-threatening pericarditis with tamponade. Our experience would suggest that, counter to expectations, anti-TNF therapy is not necessarily protective against pericarditis.

Our first patient was a 75-year-old female with a 12-year history of severe seropositive erosive RA. She had initially been treated with DMARDs including methotrexate but had only partially responded and, in 2001, she was commenced on infliximab at 5mg/kg. She initially received infusions at 8 weekly intervals but it was not until infusions were increased to 6 weekly that good control of her disease was achieved. She received a total of 28 infusions. In March 2005 she presented to the Emergency Department complaining of acute onset dyspnoea. On examination heart sounds were faint but there were no murmurs. Her ESR was 40mm in the first hour, CRP was 11mg/L. An echocardiograph showed a moderate pericardial effusion with right atrial mid-systolic collapse but good left ventricular function. Concentration of rheumatoid factor was 320 IU/ml, glucose and thyroid function tests were within the normal range as were white blood cell counts and platelet counts. The 2TU tuberculin skin test was negative and chest radiograph showed no evidence of TB. ANA and anti- single and double stranded DNA antibodies were negative. It was felt that the effusion was secondary to RA and corticosteroids were commenced. She responded very well and a follow up echocardiograph was normal. In July 2005, she was readmitted with recurrent symptoms. She had evidence of haemodynamic compromise with a tachycardia and hypotension. An echocardiograph revealed a loculated pericardial effusion. Pericardiocentesis yielded over 200mls of serosanguinous fluid. Examination of the fluid showed multiple neutrophils but no malignant cells and no bacteria. Cultures for bacteria and TB were negative. She showed an excellent response to corticosteroids and remains well on follow-up.

Our second patient was a 60-year old female with an 8-year history of severe seropositive erosive RA resistant to DMARDS including methotrexate. In 2002, she received infliximab 3mg/kg. However, this was discontinued because of an allergy. In 2003, she was commenced on adalimumab 40mg fortnightly, with improved control. Unfortunately, 4 months later, she was urgently admitted with cardiovascular collapse. She was afebrile, hypotensive and in fast atrial fibrillation. Heart sounds were faint. An echocardiograph showed a large pericardial effusion. She had evidence of multi-organ failure secondary to cardiogenic shock, acute renal failure and hepatic necrosis. ESR was 22mm in the first hour and a CRP was 16mg/L.

Pericardiocentesis yielded several hundred ccs of exudative fluid with multiple neutrophils but no malignant cells or organisms were seen. Bacterial, fungal and TB cultures were negative. 2TU tuberculin skin testing was negative and chest radiograph again showed no evidence of TB. ANA and dsDNA were negative. She received 40mg prednisolone daily for 3 months. She required dialysis for several weeks. She eventually made a good recovery after several weeks and has remained well on follow up. She is now taking methotrexate 25mg p.o. weekly and etanercept 25mg s/c twice weekly. At the time of presentation, rituximab was not available in our institution.

Both of the patients presented here were female patients with long-standing severe seropositive erosive RA. Both fulfilled ACR criteria for RA and both were on a combination of anti-TNF alpha therapy and methotrexate that effectively controlled their arthritis. Despite this, they went on to develop severe pericarditis. While it is well documented that anti-TNF alpha therapy is very effective in controlling joint inflammation in RA patients, there is little data on how effective these agents are in preventing or controlling the extra-articular complications of RA. The cases we present here suggest that anti-TNF alpha agents may not be as effective in this role. In our literature search, we could find no other similar case reports. Indeed we could find no studies at all looking at the relationship between anti-TNF alpha therapy and pericarditis in RA patients. We did find large epidemiology studies (4, 5) suggesting that the incidence of vasculitis, bony erosions and rheumatoid nodules is declining and it may well be that new agents and a more aggressive approach to treating RA patients is contributing to this. However, with regard to pericardial disease, there is no data. In conclusion, we feel that our cases highlight the fact that although there is no doubt that the new anti-TNF alpha agents are effectively treating joint disease in RA patients, and may contribute to the declining incidence of some extra-articular manifestations such as vasculitis, there is no evidence that they are effective in preventing pericarditis.

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