Polymyalgia rheumatica presenting as nocturnal fever of undetermined origin

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This article illustrates the importance of considering all the differential diagnoses of pyrexia of undetermined origin, especially inflammatory rheumatic diseases, irrespective of the ethnic origin of the person concerned.

Case report

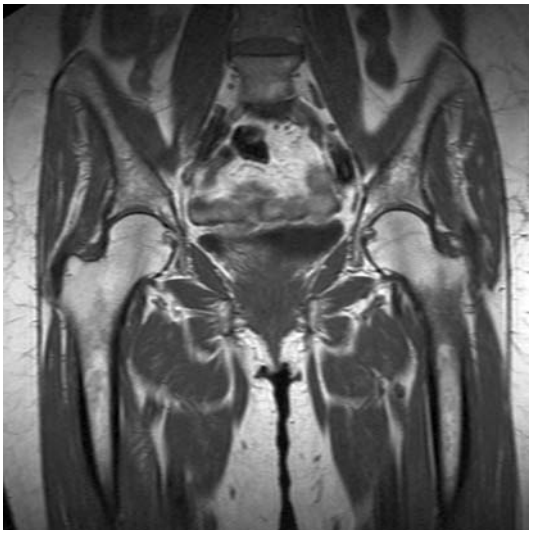
A 61-year-old South Asian woman, who has been living in England for over a decade, presented with back pain, fever and dysuria intermittently over the past three weeks and had been prescribed several antibiotics by her general practitioner for presumed urinary tract infections. However, urine microscopy and culture prior to initiation of further antibiotics of Gentamicin and Co-Amoxiclav did not substantiate this diagnosis and the antibiotics, which were given for five days, were stopped.

She remained febrile with oral temperatures rising to 38°C most evenings at around 18:00. The fever tended to persist till the early hours of the morning. Blood cultures taken on three occasions at time of fever did not produce any microbial growth and her ESR had been persistently elevated at over 100 mm in the first hour and C-reactive protein of over 100 mg/L (normal range 0–5). In addition, the haemoglobin was 10.7 g/dL initially with normal MCV and MCH and it steadily declined over several weeks to reach 8.8 g/dL. The platelets in the early stages reached a peak of 572 x 10^9/L. The chest X-ray did not reveal any pulmonary lesion.

Infective (particularly tuberculosis) and lymphoproliferative causes of this clinical presentation were the main initial differential diagnoses to be considered. Because of continuing nocturnal fever and back pain that later were associated with shoulder joint pains, the left one more than the right, as well as pains in the groin with examination of the whole spine, shoulder and hip joints showing no restriction of movements or undue tenderness of joint capsules, the differential diagnosis was expanded to include inflammatory arthropathies and SLE. Specifically, there was no early morning stiffness. MRI of the whole spine, hips (Figure 1) and sacroiliac joints were undertaken which did not reveal features of arthritis, diskitis or osteomyelitis. CT scans of the thorax, abdomen and pelvis were normal; there were especially no significant lymphadenopathies and the bowels were not thickened. Additionally, Mantoux test was negative. Antinuclear antibody test was weakly positive but DNA binding antibody was 4 IU/mL (normal range 0–30 IU/mL) and rheumatoid factor was 12 IU/mL (<20 is negative). ANCA screen was negative and creatinine kinase was normal. Serum albumin was 30 g/L and serum ferritin was 542.3 ug/L. A bone marrow biopsy did not reveal any diagnostic features on microscopy; there were no granulomas seen, and mycobacteria were not isolated from enrichment culture. Blood films on three occasions at time of fever did not reveal any malaria parasites.

The clinical features were not diagnostic of an inflammatory arthropathy or SLE. After such extensive investigations and observations, a diagnosis of polymyalgia rheumatica was made. The woman was given a trial of a daily dose 20 mg of Prednisolone for two days and this led to the resolution of her symptoms. She was maintained on this dose of Prednisolone for a further four weeks and her ESR came down to 37 mm in the first hour but C-reactive protein came down earlier to 5 mg/L, with haemoglobin rising to 11.7 g/dL. This woman is continuing to take Prednisolone titrated with her symptoms and ESR, and remained free from joint pains when last seen.

Figure 1
MRI of hip joints showing absence of joint effusion and normal synovial covering



Discussion

Polymyalgia rheumatica is a common inflammatory rheumatic disease in people over the age of 50 years of European descent.[1] It is characterized by pain and morning stiffness in the shoulder and pelvic girdles and occasionally may affect the cervical spine. The diagnostic criteria for this disease have been described by Chiang *et al.*[2] and Healey,[3] with the latter including the criterion of rapid response to 20 mg or less of Presdnisolone per day. Polymyalgia rheumatica may co-exist with giant cell arteritis but in this woman there was no evidence of this. The pathogenesis of this disease is not known but it is postulated that genetic susceptibility coupled with environmental factors may predispose to this condition.[1,4] It is thought to be uncommon among Asians.[5] Low-grade fever may be also be a feature of the disease, but high-grade fever has not been described except in giant cell arteritis.[6]

Our patient was South Asian in origin presenting with a total of eight weeks of nocturnal pyrexia and proximal joint pains with ESR greater than 100 mm in the first hour. Despite extensive investigations no infective cause, especially tuberculosis, could be found and no other rheumatological diagnosis could be made. However, she responded rapidly to 20 mg of Prednisolone per day.

This case demonstrates that the severity of fever and its diurnal variation does not exclude the diagnosis of polymyalgia rheumatica. In addition, the ethnicity of a person may not provide any indication as to the diagnostic group of the clinical problem facing the clinician in a multi-ethnic environment.

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