Shoulder X-ray – A Clue to Multiple Myeloma

Vishnu Sharma¹, S Nagaraj¹, VR Joshi²

A 65 year old female presented with complaints of bilateral wrist pain and swelling, right upper arm pain, burning sensation and numbness of fingers bilaterally for the past 6 months. She also had bilateral knee pains for last 3 months. There was a history of easy fatigability, loss of appetite and weight loss (nearly 10 kg in last 1 year). The patient did not have any fever, morning stiffness or skin rash. She had been evaluated elsewhere. Her haemoglobin had dropped from 13mg/dl to 9.3 mg/dl in a year with an ESR around 70mm/hr (on three occasions). Her total serum proteins were 5.9 g/dl with serum albumin 3.5g/dl and serum globulins 2.4g/dl. Urinalysis showed trace albuminuria (1+). Serum protein electrophoresis was normal with no ‘M’ band. Rheumatoid factor and anti-citrullinated protein antibodies (ACPA) were negative. USG abdomen and mammography were normal. PET-CT showed increased uptake around both shoulders and hip joints consistent with inflammatory arthritis. Patient came to us with these reports.

At the time of consultation, she had pallor. Musculoskeletal examination revealed bilateral wrist synovitis and fullness of the left shoulder. X-ray of the left shoulder showed a characteristic joint space widening (Figure 1). With the history of anemia, persistent high ESR, significant weight loss, symptoms suggestive of bilateral carpal tunnel syndrome and increased gleno-humeral space of the left shoulder joint, a systemic disease causing synovial hypertrophy or infiltration into joint space was considered. USG of left shoulder confirmed the synovial hypertrophy with fluid in deltoid bursa and biceps tendon sheath. Amyloidosis was suspected and synovial biopsy was advised but the patient refused. As her protein electrophoresis was normal, urine immunoelectrophoresis and serum beta 2 microglobulins (B2M) were done. Urine electrophoresis showed M band and urinary kappa chains were 733mg/dl (ref. range 0–1.85 mg/dl). Serum B2M levels were 5289 ng/ml (ref. range 609–2366 ng/ml). Bone marrow biopsy confirmed the diagnosis of multiple myeloma (MM). Patient was treated with bortizumab and she is in remission now.

Bone pains are one of the most common symptoms of MM. Few cases of oligoarthritis or even symmetrical arthritis mimicking RA have been described. Shoulder fat pad sign is described as one of characteristic sign of amyloidosis. Our patient had shoulder fullness clinically, and on X ray the gleno-humeral joint space was widened. This lead us to think amyloidosis. Serum protein electrophoresis can be normal in 20% of patients with multiple myeloma. Both urine and protein electrophoresis or immunoelectrophoresis should be done before excluding MM.³

References


¹Registrar; ²Director-Research and Consultant Rheumatologist, Department of Rheumatology, PD Hinduja National Hospital and Medical Research Centre, Veer Savarkar Marg, Mahim, Mumbai 400 016
Received: 16.12.2010; Revised: 08.04.2011; Accepted: 25.04.2011