Quiz

Radiological Quiz

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A 41 year old male presented with complaints of acute onset pain and redness of the right eye. Patient had photophobia, blurry vision and increased lacrimation in the right eye. Fig. 1 shows the photograph of the right eye.

Patient also complained of back pain. Back pain was worse in the morning, used to improve with activity and had a nocturnal component. Fig 2 shows radiographs of the dorso-lumbar spine in anterior and lateral projections. Fig.3 shows the radiograph of the sacro-iliac joints in short axis prone projection.

What is your diagnosis?

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Fig. 1 : Photograph of the right eye, which shows ciliary congestion, mid-dilated irregular pupil, numerous posterior synechie, and pigmentation over anterior capsule of lens.

Fig. 2 : Radiographs of the dorso-lumbar spine in (a) anterior and (b) lateral projections

Fig. 3 : Radiograph of the sacro-iliac joints in short axis prone projection.

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ANSWER TO RADIOLOGICAL QUIZ

Radiographs of the dorso-lumbar spine in anterior and lateral projections (Fig.2) show squaring of the vertebral bodies. Syndesmophytes are seen bridging the visualized vertebral bodies resulting in the classic “bamboo spine”. Scoliosis is seen in the lumbar spine with concavity to left. The radiograph of the sacro-iliac joints in short axis prone projection (Fig.3) shows changes of bilateral symmetrical sacroilitis, with sclerosis and reduction in the joint space. Fuzziness of the margins of bilateral sacro-iliac joints is seen with erosive changes.

Hematological and biochemical analysis in the patient revealed elevated erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) levels. Human leucocyte antigen (HLA)-B27 assay was positive.

Diagnosis : Ankylosing Spondylitis with Acute Anterior Uveitis

Ankylosing spondylitis, the commonest spondyloarthropathy, predominantly affects young men and women. Spondyloarthropathies include ankylosing spondylitis, reactive arthritis (including Reiter’s syndrome), psoriatic arthritis, inflammatory bowel disease-associated spondyloarthropathy and undifferentiated spondyloarthropathy [1]. Ankylosing spondylitis is a chronic progressive disease leading to a variable degree of restricted mobility of the spine with consequent loss of functional capacity [2].

Acute anterior uveitis (AAU) is the commonest extra-articular manifestation of ankylosing spondylitis and occurs in 25 to 30 % of patients [3]. Uveitis is a general term for inflammation of the uveal tract due to any cause. Based on the anatomical location of the inflammation, uveitis is classified into anterior uveitis (iris and ciliary body), posterior uveitis (choroidea and retina), intermediate uveitis (peripheral retina and pars plana of the ciliary body), and panuveitis (generalized inflammation of the whole uvea) [4]. AAU is generally acute, unilateral and recurrent. Patients usually present with red eye, blurry vision, eye pain, photophobia and increased lacrimation. Ophthalmological examination in patients of AAU reveals ciliary congestion, fine keratic precipitates, flare and cells, constricted and sluggishly reacting pupil, posterior synechiae and pigment over anterior capsule of the lens.

Ankylosing spondylitis is characterized clinically by pain and stiffness of the back and radiologically by arthritic changes in the spine and sacroiliac joints. The

back pain has an insidious onset. The pain is worse in the morning, tends to improve with activity and has a nocturnal component. Constitutional symptoms include mild fever, fatigue and anorexia. Positive human leucocyte antigen (HLA) -B27 assay, elevated erythrocyte sedimentation rate and elevated C-reactive protein are seen in most patients. Evaluation of these parameters in cases of AAU helps in establishing/ruling out the diagnosis of ankylosing spondylitis and thus affects the management of these patients.

Radiologically, AS is seen in the spine as squaring of the vertebral bodies and osteitis at the vertebral margins. Ossification of annulus fibrosus results in the formation of syndesmophytes, which eventually results in the classic “bamboo spine”. Bilateral symmetrical sacroilitis is also seen in AS which radiologically manifests as, sclerosis and erosive changes of the articular margins with reduction in the joint space [5].

Pharmacologic treatment of ankylosing spondylitis starts with non-steroidal anti-inflammatory drugs (NSAIDs). Second line agents such as sulfasalazine are used when patients do not respond or are unable to tolerate NSAIDs. Recent trials have shown tumor necrosis factor- α (TNF- α) inhibitors such as etanercept and infliximab to have the potential of disease-modifying agents [6]. AAU in cases of ankylosing spondylitis is treated with topical steroids and topical mydriatics. However, regular ophthalmologic follow up is required in patients of ankylosing spondylitis due to increased chances of recurrence of AAU in them.

References

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