Complicated uveitis in a spondyloarthritis patient: a case report

Afdal Rosihan Hasbi1, Awalia2*

ABSTRACT

Background: Ophthalmic manifestations, like uveitis, might be one of the complications of spondyloarthritis. Many individuals experiencing acute uveitis are unaware that spondyloarthritis has already been present. The late diagnosis and treatment of uveitis can result in permanent vision impairment. This case report presents the diagnosis and management by a rheumatologist and ophthalmologist of a spondyloarthritis patient with complicated uveitis.

Case: On October 27, 2021, a 42-year-old male patient came to the rheumatology outpatient clinic of Dr. Soetomo General Hospital, Surabaya, Indonesia with intermittent low back pain for the past fourteen years, which worsened in the last eight months. The pain was accompanied by morning stiffness for about an hour after getting-up every day, gradually relieved by stretching. The lumbosacral x-ray revealed bilateral sacroiliitis. The patient also came to the ophthalmology outpatient clinic with sudden left eye pain and gradually blurred vision for the past two years. He was diagnosed with spondyloarthritis with bilateral uveitis, secondary glaucoma, and secondary cataract on both eyes. He was given methotrexate, sulfasalazine, sodium diclofenac, topical timolol 0.5%, topical atropine, acetazolamide, and methylprednisolone. The low back pain and impaired vision were improved after three months of treatment. The patient was reluctant to be followed up, which impacted on recurrence of blurry vision. Two years ago, the patient visited an ophthalmologist, complaining of sudden eye pain and redness. Since then, the vision has gradually become blurry. The patient was diagnosed with uveitis in both eyes and absolute glaucoma on the right eye. The treatment was oral methylprednisolone 16 mg three times daily, oral acetazolamide 250 mg four times daily, topical atropine twice daily for both eyes, and topical timolol twice daily for the right eye.

Conclusion: Uveitis should be suspected as a relatively common complication of spondyloarthritis. Early diagnosis and treatment of this uveitis might prevent permanent damage.

Keywords: Spondyloarthritis, uveitis, treatment, rheumatology.

CASE REPORT

A 42-year-old man came to the rheumatology outpatient clinic of Dr. Soetomo Academic General Hospital (October 27, 2021) with intermittent low back pain for the past 14 years, which worsened in the last eight months. The pain was accompanied by asymmetrical muscle stiffness for about an hour after waking up every morning, gradually relieved by stretching, red eyes and blurry vision. The patient reported that he had been given cyclosporine and methylprednisolone from a private doctor four years ago and had had sight improvement after 4-month treatment. The patient was reluctant to be followed up, which impacted on recurrence of blurry vision. Two years ago, the patient visited an ophthalmologist, complaining of sudden eye pain and redness. Since then, the vision has gradually become blurry. The patient was diagnosed with uveitis in both eyes and absolute glaucoma on the right eye. The treatment was oral methylprednisolone 16 mg three times daily, oral acetazolamide 250 mg four times daily, topical atropine twice daily for both eyes, and topical timolol twice daily for the right eye.

The patient was alert, vital signs were stable, Wong-Baker pain scale was 3. The ophthalmology examination showed the visual acuity of both eyes was 1/∞ and intraocular pressure (IOP) on Schiotz’s tonometry was 4/50.6 mmHg. The
funduscopy result was negative fundus reflex of both eyes. There were minimal ciliary injections, shallow anterior chamber, pupillary seclution, posterior synchecia, rubeosis, non-spherical and anisochore pupils (2 mm / 3 mm), and cloudy lens on both eyes. The iris bombé and peripheral anterior synchecia (PAS) were only on the left eye (Figure 1).

The head, neck, chest, abdomen, and extremities examinations revealed no abnormalities. Tender and stiff joints were found at the hip, spine, fingers of both hands (dominant at the right one), and the left heel. No swelling or nodules found.

Complete blood count (CBC) was normal. Antinuclear Antibody (ANA) test was negative with ANA was 9.53. The lumbosacral x-ray revealed bilateral sacroiliitis, degenerative disc disease, and dextroscoliosis (Figure 2). The patient was diagnosed with axial spondylarthritis with bilateral uveitis, secondary glaucoma, and secondary cataract. He was given methotrexate 10 mg once a week, sulfasalazine 500 mg twice daily, sodium diclofenac 25 mg twice daily, and folic acid 1 mg once a day. The vision symptoms were treated with acetazolamide 250 mg three times a day and methylprednisolone 8 mg twice daily.

In the first follow-up (a month later), the ocular pain decreased, but still difficult to see. The physical examination showed the patient's Wong-Baker scale was 3, the Ankylosing Spondylitis Disease Activity Score (ASDAS) was 2.58 (high), and visual acuity was 1/∞. The complete blood count was normal. Actually, after failed response to NSAID, he should be given biologic DMARD, but due to financial issue patient didn't get biological DMARD treatment. The patient continued the same treatment.

The second follow-up (2 months later) he did not complain any ocular pain, the blurry vision and back pain were improved. The Wong-Baker scale was 0, the ASDAS was 1.88 (moderate), and visual acuity was 1/300. The same treatment was still given. In the third follow-up (3 months later), the Wong-Baker scale and visual acuity remained the same, and the ASDAS was 1.55 (moderate). The patient continued the same treatment.

Figure 1. Slit lamp examination showed ciliary injection, shallow anterior chamber, seclution iris, posterior synchecia, rubeosis, non-spherical and anisochore pupils (2 mm / 3 mm), and cloudy lens on both eyes. The iris bombé and peripheral anterior synchecia (PAS) were only on the left eye.

Figure 2. The anteroposterior and lateral view of lumbosacral x-ray demonstrated showed right and left sacroiliitis grade 3 and dextroscoliosis.
DISCUSSION

Uveitis is the most common extra-articular manifestation of spondyloarthritis (21-33%).[13,14] The prevalence is different among the US (35%), Latin America (20%), European (29%), and Asian countries (21%).[14] Men were more frequently affected by uveitis, but a study also reported the opposite, and another study found no difference.[15-17] Uveitis in spondyloarthritis was mainly acute (89%), anterior (91%), and unilateral (87%); about 50% of patients experienced recurrent uveitis, and 4% had posterior uveitis.[15-18] Only a small number (9%) reported bilateral eye involvement, whereas alternating eye involvement is common in recurrent uveitis. It targets spondyloarthritis patients, particularly with HLA-B27 positive (40%).[15] In this case, a male spondyloarthritis patient had anterior and bilateral uveitis. The HLA-B27 was not tested.

The exact pathogenesis of spondyloarthritis and uveitis is still unknown. There appears to be a close relationship between the two diseases, which results from genetic interactions, external influences such as the microbiome, bacterial infection or mechanical stress, and immune system activation resulting in inflammation.[18] Three main hypotheses may be related to the pathogenesis: the arthritogenic/uveitic peptide hypothesis, the HLA-B27 misfolding hypothesis, and the innate immune system activation hypothesis by aberrant HLA-B27.[19,20]

Spondyloarthritis is a chronic rheumatic disease characterized by several characteristic symptoms, most of which are related to genetic factors and have a typical imaging picture. Spondyloarthritis was grouped based on clinical symptoms into axial and peripheral spondyloarthritis.[21] The diagnostic criteria for axial spondyloarthritis is confirmed by conventional radiology or MRI with at least one of the following three criteria: (a) back pain that improves with physical activity and does not improve with rest, (b) back pain for more than three months, (c) sacroiliitis on radiology or MRI. The peripheral spondyloarthritis is identified with peripheral arthritis or enthesitis or dactylitis, which meets one of the following two criteria: (a) inflammatory back pain (IBP), sacroiliitis on radiology or MRI, psoriasis, or a family history of spondyloarthritis, (b) two of the four clinical signs of spondyloarthritis: enthesitis, dactylitis, psoriasis, or a family history of spondyloarthritis. Neither type of spondyloarthritis should meet the criteria to diagnose rheumatoid arthritis or systemic lupus erythematosus.[22]

Ocular involvement in spondyloarthritis, especially in acute anterior uveitis, is characterized by an acute onset of intraocular inflammation focusing on the iris and ciliary body. In spondyloarthritis patients, intraocular involvement occurs characteristically as unilateral recurrent acute anterior uveitis (AAU), although bilateral inflammation is rare. These symptoms may begin with a prodromal stage which the patient may feel as photosensitivity and sudden onset of pain in the affected eye. Photophobia is caused by ciliary muscle spasm, which also causes pain and is associated with cellular inflammation of the anterior chamber. Pain, circumlimbal redness, and blurred vision are common symptoms in uveitis, and decreased vision can be mild to severe.[23] Cataracts and glaucoma might result from uveitis complications through anterior to posterior eye segment involvement.[8,15] From the patient’s history, there were sudden pain and redness in the eyes, accompanied by decreased vision. The eyes’ symptoms were treated with acetazolamide 250 mg three times daily and methylprednisolone 8 mg twice daily.

The conventional disease-modifying antirheumatic drugs (csDMARDs) are ineffective for spondyloarthritis treatment, except sulfasalazine for peripheral arthritis.[18,24] In recurrent, refractory, or cortisone-dependent cases, csDMARDs can control inflammation and reduce the severity of AAU in spondyloarthritis.[25,26] In this case, the patient was treated with oral methotrexate, sulfasalazine, diclofenac sodium, and folic acid. After three months, fortunately the patient had improvement on his vision and back pain improvement.

CONCLUSION

General practitioners or ophthalmologists need to take proper history of every patient with uveitis. Asking whether any joint pain/stiffness, inflammatory back pain, neck or buttock pain to look for any sign of spondyloarthritis or any other connective tissue diseases. Uveitis should be anticipated in spondyloarthritis patients and treated promptly. Early treatment including NSAID and DMARDs for spondyloarthritis may improve their symptoms and prevent further complications.