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Sarcoidosis and ankylosing spondylitis – a coincidence or common ethiopathogenesis? Case series

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Introduction: Sarcoidosis is a chronic granulomatous disease affecting various organs and systems, most commonly the lungs and lymph nodes, but also the musculoskeletal system (4 – 38% of patients). Ankylosing spondylitis (AS) is the most common type of spondyloarthropathy, predominantly affecting the axial skeleton. It has been reported that AS can occur in patients with sarcoidosis almost two times more frequently than in the general population, we present three case reports of the coexistence of sarcoidosis and AS.

Case description: The first patient was a 52-year-old man diagnosed with sarcoidosis based on clinical manifestations, radiological findings and lymph node biopsy. Additionally, he suffered from back pain since he was 25 years old and a computed tomography (CT) scan depicted syndesmophytes in his spine and ankylosis of sacroiliac joints. The patient was referred to the rheumatologist, and based on modified New York Criteria, AS with positive HLA-B27 antigen was diagnosed. The patient has been treated with non-steroidal anti-inflammatory drugs (NSAIDs) and sulfasalazine due to an inflammatory bowel disease.

The second patient was a 56-year-old man diagnosed with AS with positive HLA-B27 antigen two years prior, treated with NSAIDs and upadacitinib. The patient reported a frequent productive cough, and his chest CT scan revealed enlarged bilateral mediastinal lymph nodes. Pulmonary functional tests were normal, and due to unclear histopathological results, a second lymph node biopsy was performed, and eventually, it confirmed the diagnosis of sarcoidosis.

The third patient was a 58-year-old woman also diagnosed with AS with positive HLA-B27 antigen eleven years prior, treated with certolizumab. Additionally, patient reported periodic dyspnoea, and based on a high-resolution CT scan, sarcoidosis was suspected. Lymph node biopsy was performed, and a diagnosis of sarcoidosis was established.
The first patient was treated with NSAIDs, the second and third with glucocorticosteroids and NSAIDs, with complete resolution of symptoms and lymphadenopathy in later observation.

Conclusions: Sarcoidosis and AS coexist, and this phenomenon might be explained by shared pathogenic mechanisms, including Th17 cells, tumour necrosis factor (TNF), interleukin-12 (IL-12), and IL-23 and – at least in some patients – sarcoidosis may occur during anti-TNF treatment. Further studies on this rare but intriguing association should be conducted.