

Cardiac and pulmonary diseases in patients with Ankylosing Spondylitis

Enida Xhaferi

University of Medicine, Albania



Abstract

Background: Ankylosing Spondylitis (AS) is a chronic inflammatory rheumatic disease affecting axial and peripheral joints, whose prevalence correlates well with HLA B27 positivity. The prevalence of AS globally is thought to range between 0.1% and 1.4%. Inflammation of sacroiliac joints is an early clinical manifestation of this disease, and low back pain is the most common clinical symptom. Back pain is present for more than three months. Patient's symptoms get better with exercise and deteriorate in the morning or with inactivity. Cardiac manifestations are observed in around 2-10% of patients with AS. Studies have shown that chronic inflammatory states might also cause cardiovascular disorders; important pathologies which significantly affect morbidity and mortality. Aortic root disease and valve disease, conduction disorders are the typical cardiac lesions observed in patients with AS. Pulmonary complications are also commonly reported in patients with ankylosing spondylitis. Both the tracheobronchial tree and lung parenchyma could be affected in these patients.

Objective: Review the most frequent cardiac and pulmonary manifestations observed in patients with Ankylosing Spondylitis and present the measures that should be taken to improve patients' health status.

Methods: A literature review was conducted. Information regarding the most frequent cardiovascular and pulmonary diseases observed in patients with Ankylosing Spondylitis was selected and the data analysis is included below.

Results: Aortic root disease and valve disease were described by Bulkley and Roberts in 1973, who performed autopsy studies on eight patients with Ankylosing Spondylitis and cardiovascular disorders. This study and others that followed, showed that - aortic root dilation, thickening and stiffening; aortic cusp thickening, retraction with presence of rolling edges; anterior mitral leaflet thickening; subaortic lump and aortic and mitral regurgitation are the most common observed pathomorphological lesions in patients with Ankylosing Spondylitis. Patients had also conduction disturbances. Mitral regurgitation is present in AS patients but not as often as - aortic regurgitation. Continuation of the fibrosis of the subaortic tissues, and its progress to the mitral valve leaflet, constitutes the proposed pathologic mechanism. Mitral valve apparatus might also get altered, as a result of the hypertrophied left ventricle which ensues, severe aortic regurgitation. Conduction abnormalities are commonly observed in AS patients. Dik et al. 2010 found higher prevalence of first-degree blocks in patients with Ankylosing Spondylitis and an association of these blocks with disease duration. Other disorders include - second or third degree

Atrioventricular blocks, bundle branch block, fascicular blocks, Wolff-Parkinson-White syndrome and Sinus Node malfunction. Myocardial dysfunction (significant diastolic dysfunction) and impaired coronary vasculature are also observed in these patients. Pulmonary manifestations include - intestinal lung disease (ILD), spontaneous pneumothorax, ventilatory disorders due to chest wall restrictions, and fibrosis of the upper lobes, bronchiolitis obliterans, bronchocentric granulomatosis, and pulmonary superinfections. High resolution computed tomography has offered better visualization of the patients' lung parenchyma, and multiple new studies have shown association between ILD and Ankylosing Spondylitis.

Conclusion: Cardiac and pulmonary manifestations are commonly observed in patients with Ankylosing Spondylitis. Knowledge regarding these pathologies is increased through the years, as a result of advancements, in the field of radiologic imaging. It is very important to detect early and manage adequately all specific types of cardiac and pulmonary manifestations in AS patients, and offer thorough cardiac and pulmonary examinations to all of them.

Keywords: Ankylosing Spondylitis, Cardiac and pulmonary diseases, Aortic root disease, Valve disease.



Biography:

Enida Xhaferi is a Faculty of Medical Technical Sciences from University of Medicine, Tirana, Albania.

Speaker Publications:

1. "Current Insights into the Pathogenesis of Rheumatoid Arthritis"; International Journal of Science and Research / 2015 / 4(10):1442-1450.
2. "Approach to Clinical Medicine. Mjekesia Klinike dhe Semundjet e Brendshme"; EMAL. / 2019 / ISBN: 978-9928-04-557-7.
3. "CARDIAC MANIFESTATIONS IN PATIENTS WITH ANKYLOSING SPONDYLITIS"; International Journal of Ecosystems and Ecology Science / 2015 / Vol. 5(3).

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