

Understanding Spondyloarthritis: Causes, Symptoms, and Management

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Introduction

Spondyloarthritis (SpA) refers to a group of chronic inflammatory rheumatic diseases that primarily affect the spine, sacroiliac joints, and, in some cases, peripheral joints. Unlike other forms of arthritis, SpA is strongly associated with inflammation where ligaments and tendons attach to bone, a process known as **enthesis**. It encompasses several related conditions, including ankylosing spondylitis, psoriatic arthritis, reactive arthritis, enteropathic arthritis (linked to inflammatory bowel disease), and undifferentiated spondyloarthritis. These conditions share overlapping genetic, clinical, and immunological features, but each also carries unique manifestations.

Causes and Risk Factors

The exact cause of spondyloarthritis is not fully understood, but both genetic predisposition and environmental factors play major roles. A strong association exists between SpA and the HLA-B27 gene, found in a high percentage of patients with ankylosing spondylitis. Environmental triggers, such as certain infections, may activate the immune system abnormally in genetically susceptible individuals, leading to chronic inflammation. Other risk factors include family history of autoimmune disease, male sex (especially in axial SpA), and co-existing conditions such as psoriasis or inflammatory bowel disease.

Symptoms and Clinical Features

The hallmark symptom of spondyloarthritis is inflammatory back pain—typically worse at night and improving with movement rather than rest. Patients often report morning stiffness that lasts longer than 30 minutes. Other common features include:

Axial involvement: Chronic inflammation of the spine and sacroiliac joints, potentially leading to reduced flexibility and postural changes.

Peripheral arthritis: Pain and swelling in joints such as knees, ankles, or shoulders.

Enthesitis: Pain at tendon or ligament attachment sites, such as the Achilles tendon or plantar fascia.

Extra-articular manifestations: Some patients experience eye inflammation (uveitis), psoriasis, or intestinal symptoms related to inflammatory bowel disease.

Fatigue: Persistent tiredness is common and can significantly impact quality of life.

Diagnosis

Diagnosing spondyloarthritis can be challenging due to its diverse presentations and overlap with other musculoskeletal disorders. Physicians rely on a combination of clinical history, physical examination, imaging, and laboratory testing.

Imaging: X-rays and MRI scans can detect sacroiliitis and structural changes in the spine. MRI is especially useful for identifying early inflammation before permanent damage occurs.

Laboratory tests: HLA-B27 testing may support diagnosis, although not all carriers develop SpA. Blood tests can reveal elevated markers of inflammation such as C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR).

Treatment and Management

While there is no cure for spondyloarthritis, effective management can reduce pain, preserve mobility, and prevent long-term complications. Treatment strategies often combine medication, physical therapy, and lifestyle changes.

Non-steroidal anti-inflammatory drugs (NSAIDs): First-line treatment to control pain and stiffness.

Biologic therapies: Tumor necrosis factor (TNF) inhibitors and interleukin-17 (IL-17) inhibitors are highly effective in patients who do not respond to NSAIDs.

Physical therapy and exercise: Stretching, posture training, and strengthening exercises help maintain flexibility and reduce disability.

Patient education: Understanding the condition encourages adherence to treatment and lifestyle adjustments such as regular exercise, smoking cessation, and balanced nutrition.

Prognosis and Outlook

With timely diagnosis and modern biologic therapies, many patients with spondyloarthritis can lead active lives and prevent severe disability. However, untreated or poorly managed disease may lead to progressive spinal fusion, restricted mobility, and

increased risk of osteoporosis or cardiovascular disease. Early intervention is crucial in slowing progression and improving long-term outcomes.

Conclusion

Spondyloarthritis is a complex group of inflammatory diseases that primarily affect the spine, joints, and entheses, with potential systemic involvement. While its exact cause remains unclear, advances in genetics and immunology have deepened understanding of the disease and improved treatment strategies. Early recognition and comprehensive management—encompassing medication, physiotherapy, and patient education—are key to enhancing quality of life and preventing long-term complications. Ongoing research continues to bring new therapeutic options, offering hope for even more effective disease control in the future.