Lecture No. 3

Ankylosing spondylitis

The term spondyloarthritis (SpA) (otherwise known as spondyloarthropathy) encompasses a heterogeneous group of inflammatory diseases characterized by spinal and peripheral joint oligoarthritis, inflammation of the attachments of ligaments and tendons to bones (enthesitis) and, at times, mucocutaneous, ocular, and/or cardiac manifestations. These disorders show familial aggregation and are typically associated with genes of the major histocompatibility complex (MHC), particularly human leukocyte antigen (HLA)-B27 The SpA include: (1) ankylosing spondylitis (AS); (2) reactive arthritis (ReA)— known previously as Reiter's syndrome; (3) psoriatic arthritis (PsA) and/or spondylitis; (4) enteropathic arthritis and/or spondylitis associated with the inflammatory bowel diseases (IBD), ulcerative colitis (UC), or Crohn's disease; and (5) undifferentiated SpA, which encompasses patients expressing elements of, but failing to fulfill, accepted criteria for one of the above diseases. In addition, isolated acute anterior uveitis (AAU)1 and spondylitic heart disease (complete heart block and/or lone aortic regurgitation) associated with HLA-B27 may also be classified within the spectrum of SpA.

Ankylosing spondylitis (AS) is a chronic inflammatory condition of the spine and sacroiliac joints. It is progressive disease in which restriction of movement is associated with intervertebral ossification of the ligaments. Men, usually below the age of 40, man develop the disease three times more frequently than women. Approximately 90% of the patients are HLA-B*27 positive, while the prevalence of this antigen in the general population is 7%. Of all the adult HLA-B*27- positive individuals, 1-2% have ankylosing spondylitis.

Etiology of AS

The etiology of the disease is unknown, but persistence of specific antigens of the infecting organisms has been demonstrated in these patients. This has led to suggestion that AS is also triggered by infection (possibly in the gastrointestinal tract) in susceptible HLA-B*27-positive individuals. Inflammation occurs and persists in different organs and joints in Ankylosing Spondylitis. Each individual tends to have their own unique pattern of presentation and activity of the illness. The initial inflammation may be a result of an activation of body's immune system, perhaps by a preceding bacterial infection or a combination of infectious microbes. Once activated, the body's immune system becomes unable to turn itself off, even though the initial bacterial infection may have long subsided. Chronic tissue inflammation resulting from the continued activation of the body's own immune system in the absence of active infection is the hallmark of an inflammatory autoimmune disease.

Clinical features

The onset of AS tends to be insidious with a dull lumbar pain; this persists over 3 months and is accompanied by morning stiffness relieved by exercise. Arthritis of the peripheral joints is seen in one third of the patients. Amongst extrarticular manifestation, iritis is the most troublesome: it tends to be unilateral and accompanied by photophobia pain. Inflammation of the colon and ileum is frequent but usually asymptomatic.

Criteria of AS Classification

- **Inflammatory Spinal Pain**: History or present symptoms of spinal pain in back, dorsal or cervical region with at least 4 of the following: **A.** Onset at age < 45 years. B. Insidious onset. **C.** Improved by exercise. **D.** Associated with morning stiffness **E.** at least for 3 months duration
- **Synovitis**: Asymmetric or Predominantly in the lower limbs**.** and one of the followings:
  - Positive family history
  - Psoriasis
  - Inflammatory bowel disease.
  - Alternating buttock pain.
  - Enthesopathy
  - Acute diarrhea
  - Urithritis
  - Sacroiliiatis

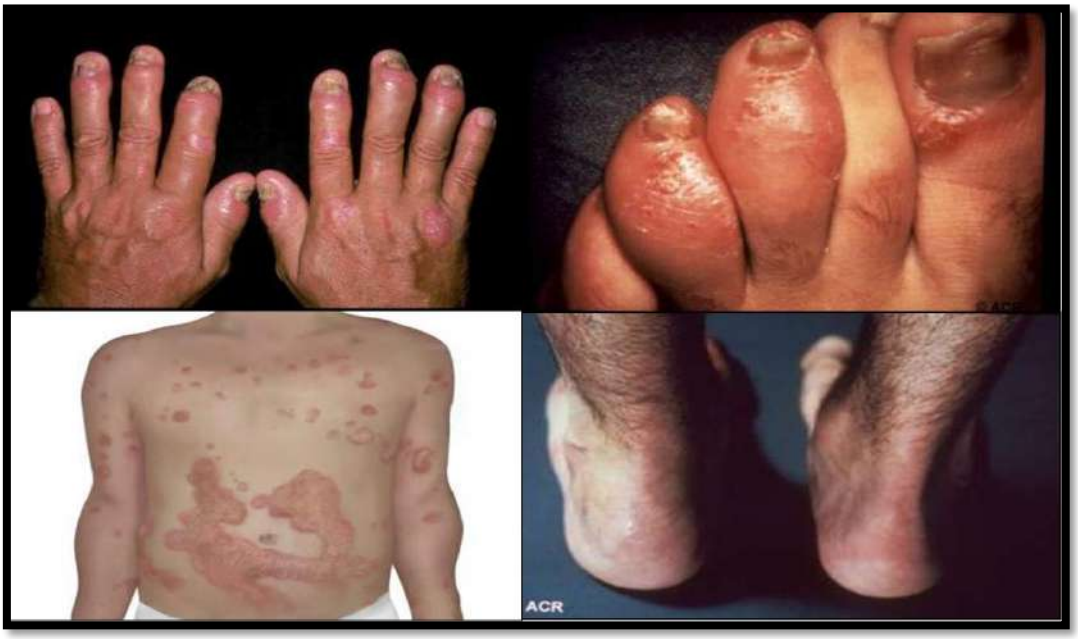
The diagnosis of Ankylosing Spondylitis is based on:

- Evaluating the patient's symptoms include pain and morning stiffness of the spine and sacral areas with or without accompanying inflammation in other joints, tendons, and organs.
- A physical examination: the Schober's test is a useful clinical measure of flexion of the lumbar spine performed during examination. Flexibility of the low back and/or neck can be decreased.
- X-ray findings
- Blood tests: Patients with AS tend to have elevated levels of IgA and, when the disease is active, elevated erythrocyte sedimentation rates and levels of C-reactive protein. Rheumatoid factor and antinuclear antibody are consistently negative. The clinical need to assess the HLA-B*27 status of a patient with symptoms and signs of AS is controversial.

Psoriatic Arthritis

Psoriatic Arthritis (PsA) is a chronic and inflammatory arthritis in association with skin psoriasis, characterized by osteolysis and bony proliferation. PsA is classified as one of the subtypes of spondyloarthropathies. Males and females are equally affected. PsA can range from mild nondestructive disease to a severely rapid and destructive arthropathy.

Clinical manifestations include skin and nail psoriasis, dactylitis, enthesitis, osteoperiostitis, large joint oligoarthritis, arthritis mutilans, sacroiliitis, spondylitis and distal interphalangeal arthritis.



Comorbidities in PsA Patients

- Ocular inflammation (Iritis/Uveitis/ Episcleritis).
- Irritable bowel disease (IBD).
- Metabolic Syndrome (Hyperlipidemia, Hypertension, Insulin resistent, Diabetes,Obesity) lead to Higher risk of Cardiovascular disease (CVD)
- Psychosocial burden, Reactive depression, Higher suicidal ideation and Alcoholism.

Two percent of patients with psoriasis develop psoriatic arthropathy; this may affect the peripheral joints or the spine. The psoriasis generally precedes the arthritis by many years; in rare cases where the arthritis comes first, diagnosis may be difficult. A family history of psoriasis is a helpful diagnostic clue and the characteristic nail changes of psoriasis are present in 80% of patients with psoriatic arthritis. Dactylitis – inflammation of an entire digit to look like a sausage – is a distinctive feature. Usually rheumatoid factor (RF) negative and ACPA negative. Radiographic damage can be noted in up to 47% of patients

at a median interval of two years despite clinical improvement with standard DMARD therapy. Treatment is similar to that for RA, including the use of anti- TNF drugs. The prognosis is usually good, although severe joint destruction can occur.

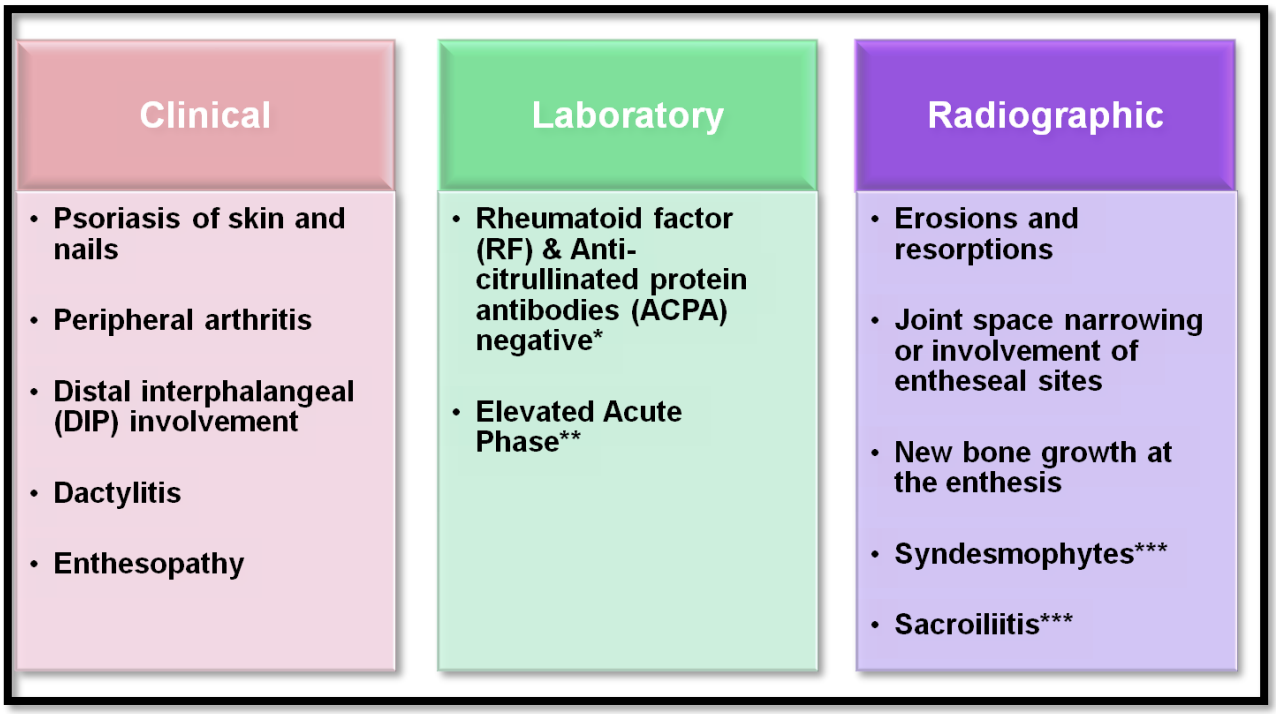


Figure: Main Features of Psoriatic Arthritis