Seronegative spondarthriti:

Are group of inflammatory joint diseases which include:

1. Ankylosing spondylitis (AS).
2. Reactive arthritis.
3. Psoriatic arthritis.

The clinical features of seronegative arthritis:

1. Familial aggregation.
2. Seronegative RF.
3. Asymmetrical inflammatory oligoarthritis (lower>upper limbs) & episodic.
4. Inflammatory sacroiliitis & spondylitis.
5. Inflammatory enthesitis.
6. Absence of nodules & other extra articular features of RA.
7. The extra articular features of seronegative spondarthriti include
conjunctivitis, mouth ulcer, urethritis, prostatitis, bowel ulceration, pustular skin lesion, nail dystrophy, anterior uveitis, aortic root fibrosis (aortic incompetence, conduction defect).

**Ankylosing spondylitis:**

It is a chronic inflammatory disease of the sacroiliac joints & spine as well as extra spinal lesions involving the; eye, bowel & heart.

The prevalence of AS ranges from 1-6% across different populations.

Human leukocyte antigen (HLA)-B27 is strong genetic risk factor for AS however this gene is neither necessary nor sufficient to cause the disease.

The peak onset is in the 2nd & 3rd decades, male to female ratio is 3:1.

90% persons of affected persons in Europe are HLA B 27+ve.
Infective trigger have not clearly been linked to cause.

Increased fecal carriage of Klebsiella aerogenes in AS.

**Clinical features:**

Spinal features of AS seldom appear before age 16–18 years.

Inflammatory backache insidious in onset, persist for >3/12 worsened by rest & improved by exercise & night pain is frequent, sacroiliitis is the most common initial feature, cause pain in buttocks, radiated sometime to thighs but never below knees.

Planter fasciitis with heel pain, Achilles tendonitis & tenderness over bony prominences as iliac crest reflecting enthesopathy, fatigue is common.

Peripheral arthritis in 40% of AS, 10% of AS cases have peripheral arthritis preceding spinal symptoms.

**Synovitis in AS:**

Peripheral oligoarthritis, episodic, lower limbs > upper limbs & asymmetrical,
temporomandibular joints may be affected, dactylitis may lead to pain at one toe or more toes lasting many months but usually resolve spontaneously.

**Early physical signs include:**

1. Restriction of lumber spine movement, lateral rotation on the 1st then progression to whole direction.

2. Pain on sacroiliac compression.

3. Failure to obliterate the lumber lordosis on forward flexion.

**Late physical signs include:**

1. Increased stiffness throughout the spine.

2. Restriction of chest expansion.

3. Few patients may develop marked kyphosis of dorsal & cervical spine.

**Extra articular manifestations:**

1. Acute anterior uveitis 25%.

2. Conjunctivitis 20%.

3. Prostatitis usually asymptomatic 80%.
4. AR, MR, pericarditis, conduction defect.
5. Amyloidosis.
6. Apical fibrosis in the lungs.

*Differential diagnosis of AS:*

1. Prolapsed intervertebral disc.
2. Fibromyalgia.
3. Infection in the spinal or sacroiliac joints e.g.; TB, Brucellosis.
6. Metabolic bone disease; osteomalacia, hypophosphatemic rickets.
7. Diffuse interstitial spinal hyperostosis (forrestier's disease).

*Modified New York criteria for AS:*

1. Low backache at least 3/12 duration improved by exercise & not relieved by rest.
2. Limitation of lumbar spine motion in sagittal & frontal planes.
4. a, Unilateral sacroiliac grade 3-4.
4. b, Bilateral sacroiliac grade 2-4.

**Definite diagnosis:** if 4a or 4b & any clinical criterion of 1-3.

**Investigations:**
1. ESR & CRP are usually raised.
2. RF is –ve.

**Radiographic signs:**
1. Sacroiliac is the 1st abnormality start in lower synovial parts of the joints.
2. Anterior squaring of the vertebrae in lateral views of thoracolumbar spine.
3. Bridging syndesmophytes.
4. Ossification at antero-longitudinal ligament with bamboo spine formation.
5. Osteoporosis & atlanto axial dislocation can occur.

**Management:**
1. The aim is to relieve pain & stiffness with maintain skeletal mobility & avoid deformity.
2. Education & appropriate physical activity are the corner stones of management.
3. Regular daily back extension exercises.
4. Avoid poor bed & chair posture.
5. NSAIDs to symptoms especially stiffness but they do not alter the natural course of the disease.
6. Sulfasalazine with / without Methotrexate may be effective for peripheral joints synovitis but not useful for axial disease.
7. Local steroid injection for planter fasciitis & enthesopathy.
9. Biologic agents (TNF alpha blockers):
   - Etanercept.
   - Infliximab.
   - Adalimumab.
10. Surgical procedures:
    - Osteotomy.
    - Total hip replacement.

**AS patients have decreased life expectancy due to:**
1. Amyloidosis.
2. Malignancy following multiple courses of radiotherapy.
3. Aortic valve disease.
4. Traumatic spinal fractures.
5. Risk of drugs & surgical procedures.
6. Associated diseases e.g.; inflammatory bowel disease.

*AS has no tendency to remit during pregnancy*