RhAPP

RHEUMATOLOGY ADVANCED PRACTICE PROVIDERS

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ax-SpA – Fundamental Track

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Spondyloarthritis (SpA)

- **Ankylosing spondylitis (AS)**
- **Non-radiographic axial spondyloarthritis (nr-axSpA)**
- Enteropathic arthritis (associated with inflammatory bowel disease)
- Reactive arthritis (formally known as Reiter's syndrome)
- Psoriatic arthritis (PsA)
- Peripheral spondyloarthritis
- Undifferentiated spondyloarthritis

Mechanical v. Inflammatory

Mechanical

- Most common
- Improved at rest
- Worse w/activity
  a. Rotation
  b. Flexion
  c. Lifting heavy objects

Inflammatory

- Night pain
- Early AM awakening
- Improved with activity
- Worse w/inactivity
- Alternating Buttock pain (SI joints)

Ankylosing Spondylitis

- Chronic inflammation of **sacroiliac (SI) joints** and spine as well as extraspinal manifestations involving the **eye, bowel and heart**
- Estimates indicate 0.2-0.5% of the US population have AS. The prevalence goes up to about 5% if you have an HLA-B27 +
- HLA-B27 gene has strong association but is not necessary to dx disease
- 3-8% of the population has + HLA-B27
- Male to female ratio 2:1 with average age in 20-30's
- Strong family history

Case 1: 55 year old female

Initial presentation:

- Generalized pain for a long time. Lower back and hip pain was present, as well as peripheral joints (hands, knees and shoulders)
- The patient first had onset of back pain in her teens – she remembers her mom taking her to the chiropractor when she was 13/14 years old
- She struggled through her 20's and 30's with back pain as well and the whole time the pain improves with exercise/movement and gets worse with sitting/rest

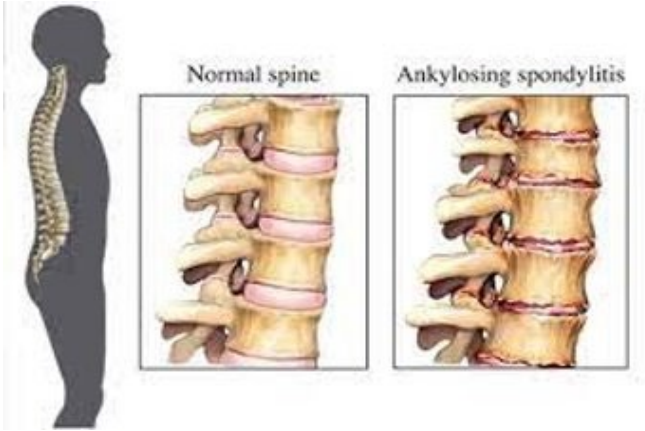
Case 1: Continued History

- She had benefit from NSAIDs over the years, but having issues with GI issues more recently
- Morning stiffness: several hours
- Fatigue: moderate to severe
- Family history:
  - Father has a history of a "bad back" and as he has aged, it has felt better, possibly because it is fused
  - Paternal uncle also had a "bad back" but was never diagnosed formally with AS

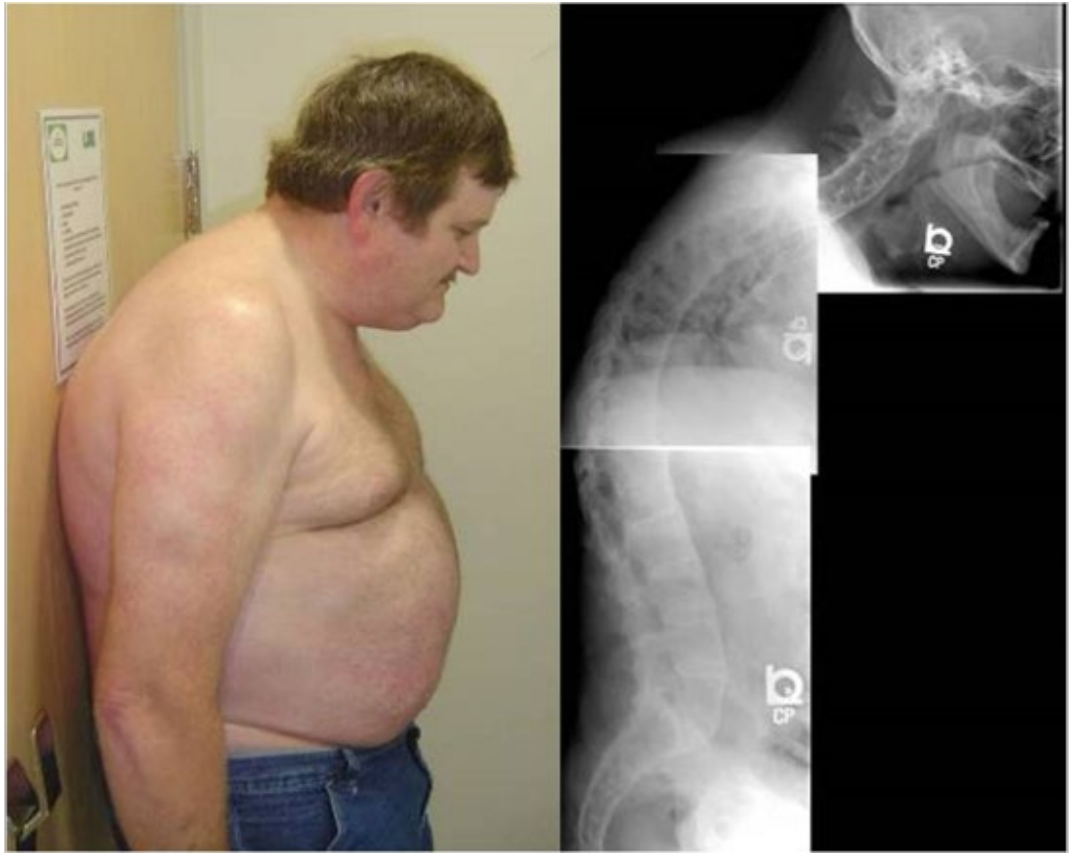
Clinical Manifestations

- **Inflammatory back pain**
  - Insidious onset
  - Persistent > 3 months
  - Worsened by inactivity
  - Improves with exercise
- **Night pain**
- **Sacroiliitis** causes pain in buttock (seen on MRI)
- **Morning stiffness**
- **SI joint tenderness**

- ROM evaluation
  - Flexion and extension
  - Schober's test



Occiput to Wall Test

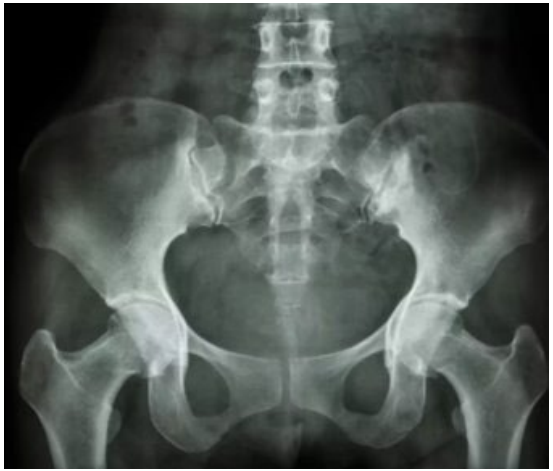


Laboratory Testing in AS

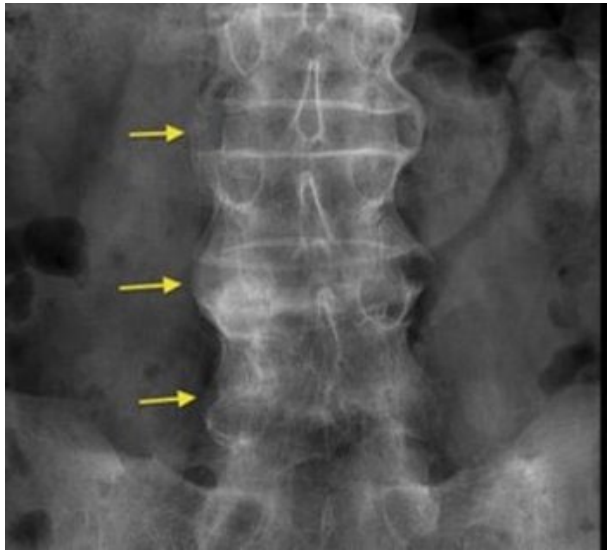
- No lab test is 100% diagnostic for AS
- ESR/CRP may or may not be elevated
- HLA-B27 + in ~90% of patients
- RF and ANA are typically negative unless there is coexistant disease

Imaging in AS

- Radiographic hallmark = **sacroiliitis**
  - MRI most sensitive
- Squaring of vertebrae



- Bony fusion (“bamboo spine”)
  - Late stage



Case 1: Laboratory and Imaging

- She has a positive HLA-B27
- CBC/CMP WNL
- ESR/CRP WNL
- RF and ANA negative
- MRI of the L-spine/SI joints: showed lumbar spondylosis at L4-5 and endplate edema and paraspinal edema at L4-5. Sacroiliitis noted bilaterally.

Extra-Articular Manifestations of AS

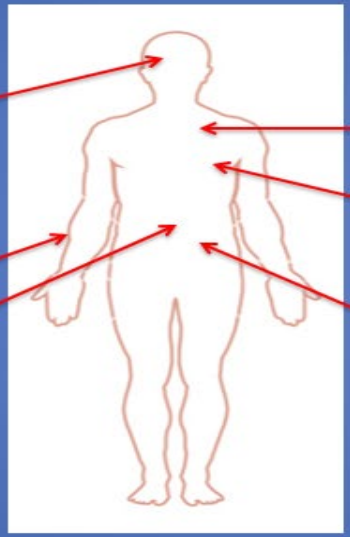
MORE COMMON

Eyes – vision threatening uveitis
MOST COMMON

Skin - psoriasis

Gut – IBD

Osteoporosis – 6x increase fx risk



LESS COMMON

Lungs: Restrictive pulmonary function

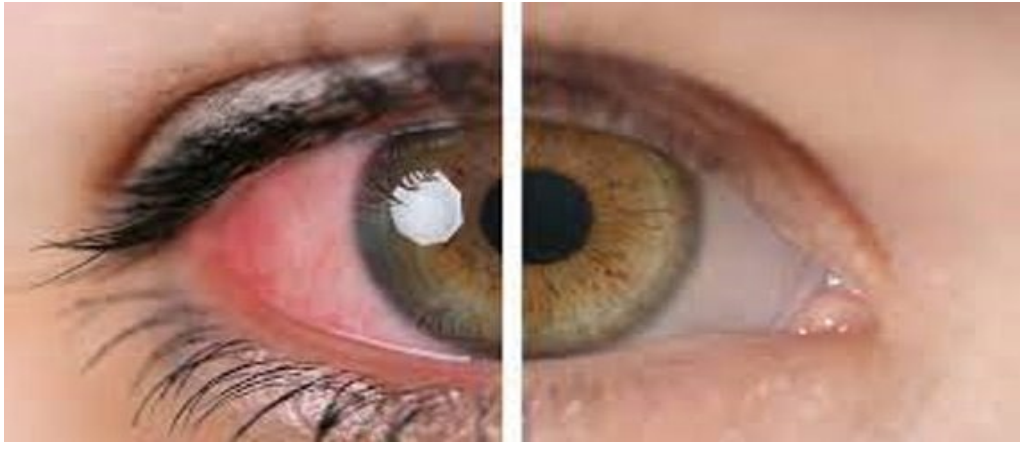
Heart: Aortic dilatation/regurg

Renal: Amyloidosis, Renal failure

Cauda Equina: long standing AS

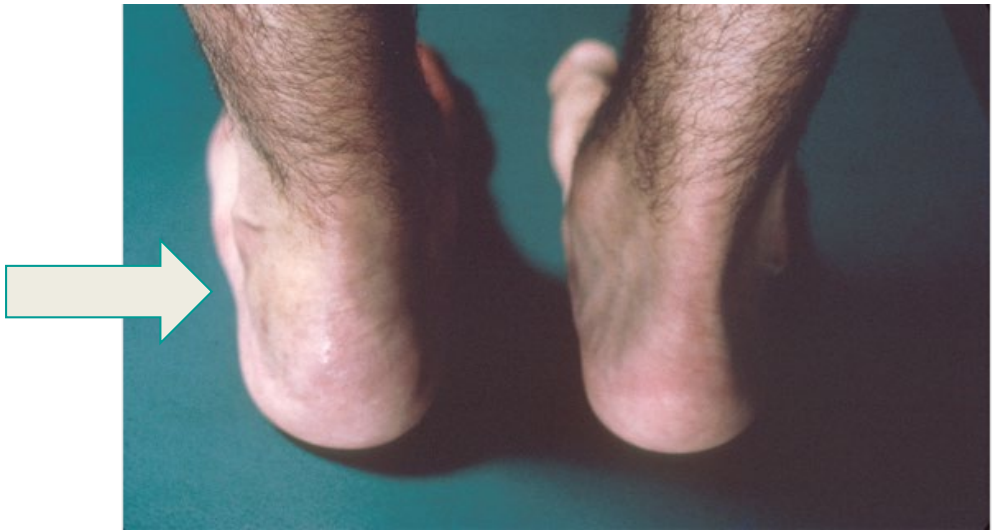
Uveitis – Eye Inflammation

- Acute, unilateral orbital pain with photophobia and progressive loss of vision if untreated
- Studies have shown correlation of HLA-B27 and uveitis
- Evaluation by ophthalmology ASAP if symptoms

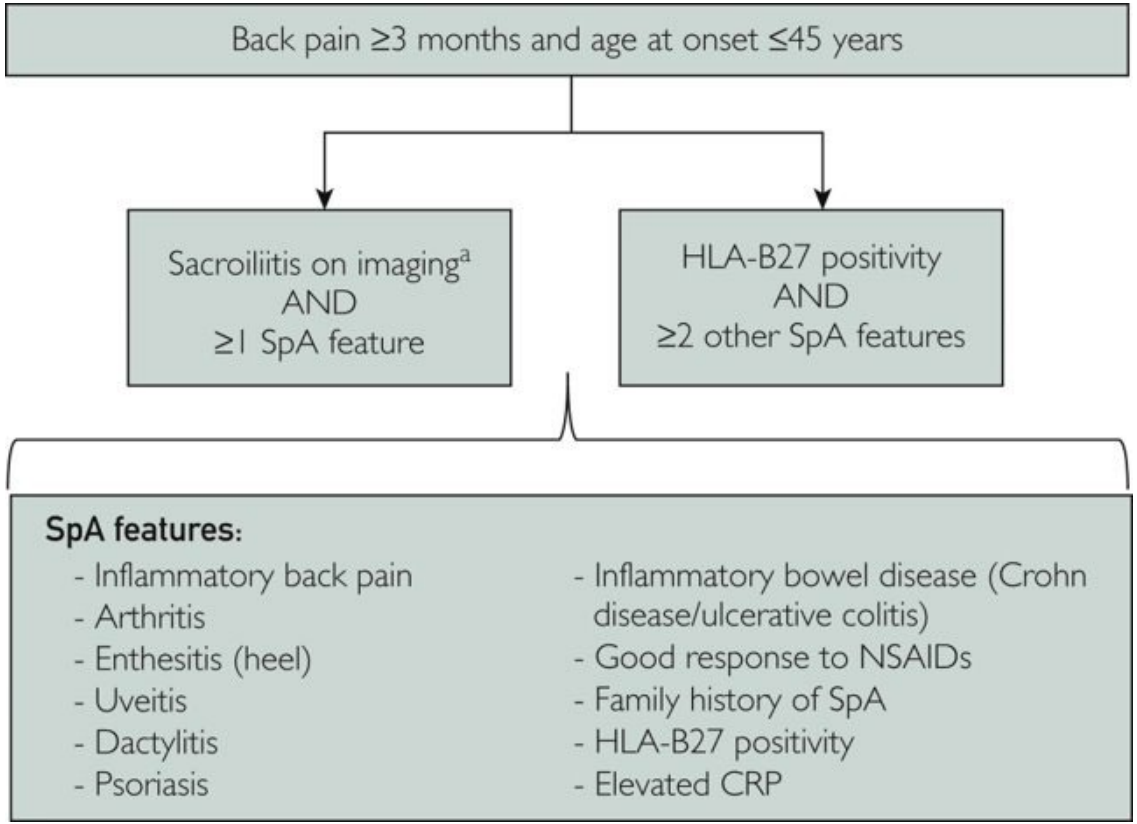


Achilles Tendonitis

Enthesitis – inflammation of the site where tendons and ligaments insert into the bone.



Classification Criteria for SpA



Management/Treatment

- Physical therapy, Occupational therapy, Exercise / Stretching (early referrals)
- **Patient education**
- **NSAIDs – first line therapy**
- **Traditional DMARDs:** Sulfasalazine, Methotrexate, Steroids
- **Biologic DMARDs:**
  - TNFi: Etanercept, Infliximab, & Adalimumab, Certolizumab, Golimumab, certolizumab
  - IL 17i: Secukinumab, ixekizumab
- **ts-DMARDs:** tofacitinib and upadacitinib

Case 1: Treatment

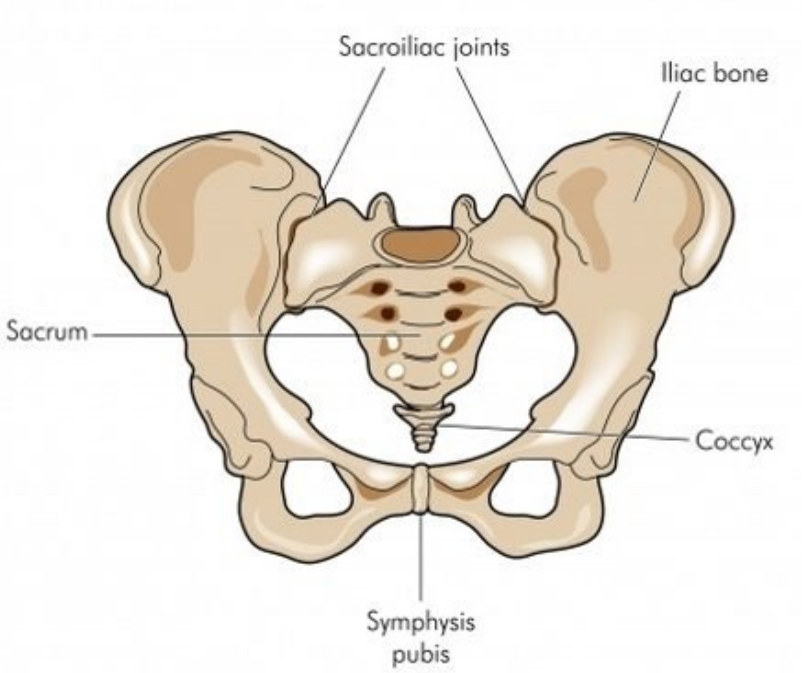
- Since patient had long history of NSAID use and with new onset GI upset, we stopped daily NSAIDs
- Physical therapy referral placed
- She was started on low-dose steroids to act as a bridging therapy, which did help
- Initiated MTX 5 tabs po q week with Folic acid

Case 1: Treatment Cont.

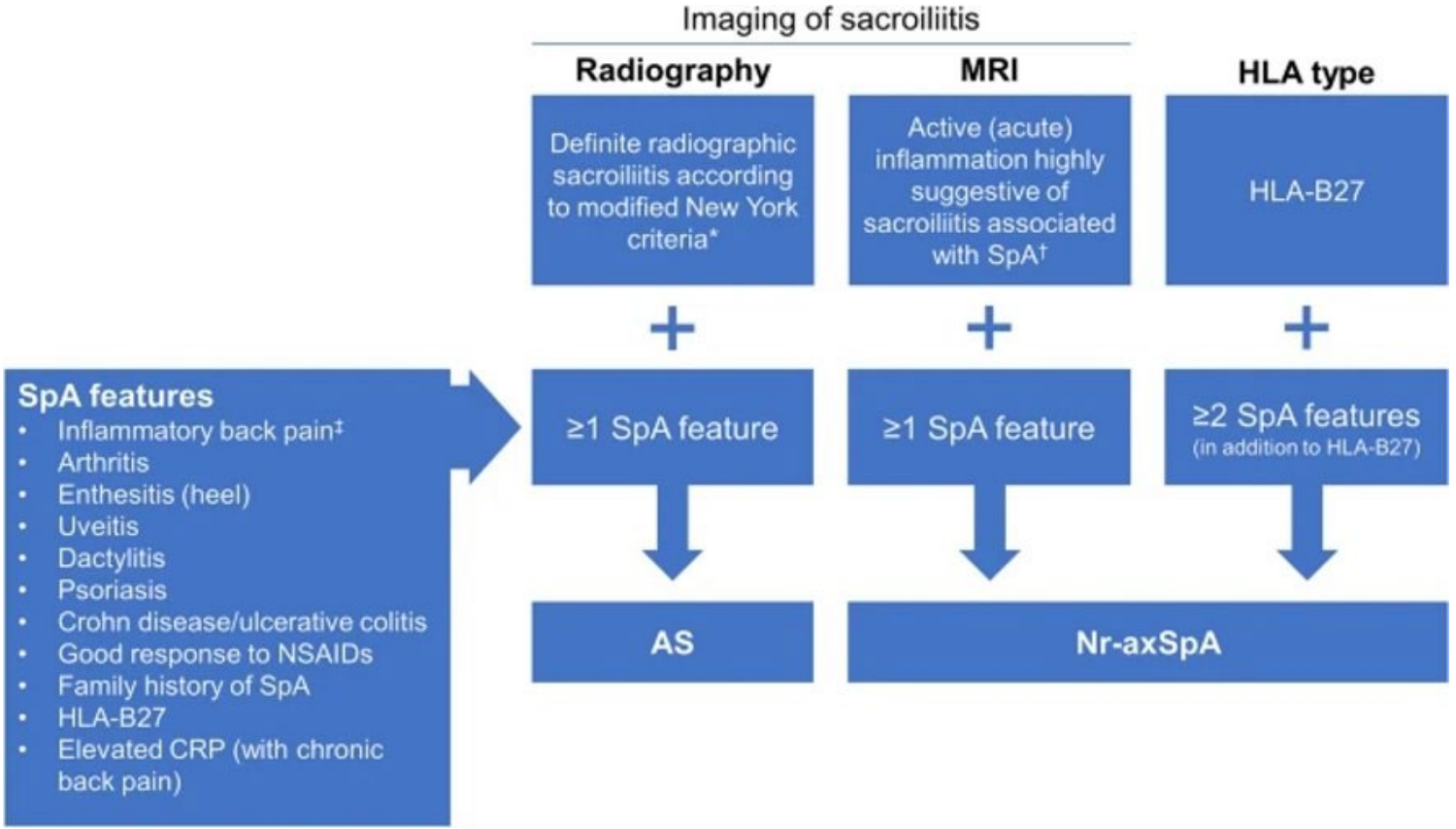
- With MTX on board, prednisone was tapered off slowly
- After about 4-6 weeks of MTX therapy, the patient developed a red, itchy rash. MTX was discontinued and the rash resolved.
- Biologic therapy was initiated- patient was initiated on infliximab 5 mg/kg IV q 6 weeks after loading.
- Initially, the patient responded, but after about 4 months, she had an infusion reaction (flushing, itching and hives). Even with pre-meds, subsequent infusions did not have the same efficacy and she had breakthrough pain/flaring
- Patient switched to secukinumab and currently doing well

Non-Radiographic Axial Spondyloarthritis (nr-axSpA)

- Inflammatory back pain without x-ray changes
- Women > Men
- Typical age of onset <40 yrs
- Better with movement
- Like most axial SpA, it takes an average of 5-8 years for dx
- Sometimes HLA-B27 +
- Over half of patients do not progress to AS over 10 years



Diagnostic Algorithm for nr-axSpA



Treatment/Management – nr-axSpA

- Physical therapy can be effective
- NSAIDS – first line treatment
- Biologics:
  - TNF: Certolizumab – March 2019
    - European Commission: adalimumab, etanercept, and golimumab
  - IL-17: Ixekizumab, secukinumab – June 2020

Questions?

References

- Image courtesy of American College of Rheumatology® http://images.rheumatology.org/ (Occiput to Wall, Achilles Tendon)
- https://www.hopkinsarthritis.org/arthritis-info/ankylosing-spondylitis/#:~:text=Recent%20population%20estimates%20indicate%20that,14%20per%20100%2C000%20person%2Dyears.
- https://raraclinic.com/diseases/ankylosing-spondylitis/ (AS picture)
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- https://www.brainspinesurgery.com/sacroiliitis/ (Sacroilitis picture)
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- https://www.mayoclinicproceedings.org/article/S0025-6196%2820%2930153-1/fulltext (SpA criteria)
- https://www.aoa.org/healthy-eyes/eye-and-vision-conditions/anterior-uveitis?sso=y (Uveitis picture)
- https://www.the-rheumatologist.org/article/ankylosing-spondylitis-uveitis-an-ophthalmologists-perspective/#:~:text=Among%20patients%20with%20ankylosing%20spondylitis,antistreptolysin%20O%20titers%2C%20and%20increased (HLA-B27 and uveitis)
- https://bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/s12891-022-05073-7 (nr-axSpA algorithm)