Medical Management of Spondyloarthritis

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SAA Spondylitis Educational Seminar
April 28, 2018

PIERS

- Program for Individuals at Elevated Risk of Spondyloarthritis (PIERS)
- University of Colorado-based program to learn about spondyloarthritis
- Recruits those with first-degree family members with spondyloarthritis
- All patients provide medical information, blood, and stool samples
- Some will undergo MRI
- No experimental treatments
- Andrew is at the back of the room with a sign-up list

General Concept of SpA

- Spondyloarthritis (SpA) - a group of diseases characterized by:
  - axial arthritis (spine, sacroiliac joints),
  - peripheral arthritis (asymmetric oligoarthritis, LE > UE),
  - enthesitis (inflammation of the ligamentous-osseous junctions),
  - Dactylitis (intense diffuse swelling of a finger/toe, "sausage" digits)
  - mucocutaneous lesions (skin rash, uveitis [typically unilateral]),
  - overlapping genetic associations (particularly HLA-B27).

Adapted from Zeidler H, Amor B Ann Rheum Dis 2011; 70:1-3

Classification of Spondyloarthritis

- Spondyloarthritis (SpA)
  - Axial Spondyloarthritis (ax-SpA)
  - Peripheral Spondyloarthritis (p-SpA)
  - Extra-Articular Spondyloarthritis (ext-SpA)

Outline

- Background
  - General Concept of spondyloarthritis
  - Classification of Spondyloarthritis
  - Clinical Aspects: AxSpA/AS
  - axSpA/AS Referral
  - axSpA/AS Dx (pathophysiologic basis)
  - axSpA/AS DDx and W/U to exclude alternate Dx
  - axSpA/AS Guidelines/Rx
  - There are only 3-4 “Slides to Remember”

Disclosures

- Dr Caplan has no COI to disclose
- Dr. Caplan’s prior funding sources (last 5 years) include:
  - American College of Rheumatology/Research and Education Foundation
  - Veterans Affairs Health Services Research and Development Service
  - Veterans Affairs Innovators Network
  - Fidelity Charitable Gift Fund / Univ of CO Foundation
  - Denver Health
- The views expressed in this article do not necessarily represent the views of the Department of Veterans Affairs.
Classification of Spondyloarthritis

- Spondyloarthritis (SpA)
  - Axial Spondyloarthritis (ax-SpA) = non-radiographic SpA (nr-SpA) vs. ankylosing spondylitis (AS)
  - nr-SpA: syndrome which does not meet mNY criteria (significant erosions or ankylosis on plain radiographs)
  - AS: syndrome of low back pain (LBP), limited spinal ROM and erosions or ankylosis on plain radiographs

Classification of Spondyloarthritis: Epidemiology

- Pre-clinical/At-risk
- ASAS axSpA Criteria (milder vs. earlier)
- AS

Clinical Aspects: AxSpA/AS

- Classic AS presentation:
  - Superior gaze
  - Loss of lordosis
  - Hip/knees flexed
  - Exaggerated kyphosis
  - Enthesitis

Clinical Aspects: AxSpA/AS

- Cumulative Percentage of patients
- Age at first symptoms
- Age at first diagnosis

Average delay in diagnosis: 9 years
Clinical Aspects: AxSpA/AS

- Spondyloarthritis (SpA) Extra Articular Manifestations

Adapted from ASAS Slide Deck

Clinical Aspects: AxSpA/AS

- Spondyloarthritis (SpA) Extra Articular Manifestations

Adapted from ACR Slide Deck

Clinical Aspects: AxSpA/AS

- Cutaneous manifestations of SpA
  - Psoriasis
  - Erythema nodosum (IBD)
  - Pyoderm gangrenosum
  - Keratoderma blenorrhagicum

Adapted from ASAS Slide Deck; Pictures copyright: healthline.com, medicinenet.com, medscape.com, pcds.org.uk, rheumatology.org

SpA Pathophysiology

(Mini Med School)

- Pathophysiology = the study of the detailed mechanisms by which things go wrong in biology
  1. Humans have an complex immune military
  2. Communication in the military relies of chemical messengers (cytokine signaling)
  3. When a military branch misbehaves we have disease (inflammation)
  4. Altering the course of auto-immune disease often involves modifying chemical signaling or blocking cells

SpA Pathophysiology

(Mini Med School)

axSpA/AS Pathophysiology = Immune activation (high inflammation) + Dysregulated (exaggerated) repair

Environmental Ag + Genetic susceptibility

Inflammation → Fatty Metaplasia → Bone Formation

Diagnostic Implications at each stage

HLAB27 testing? Inflamm. markers History Physical Exam MRI CT / X-ray

Helmick CG et al. Arthritis Rheum 2006;58:15-26
SpA Pathophysiology: First, A Normal Joint

SpA Pathophysiology: Your Immune Military

SpA Pathophysiology: Communication

SpA Pathophysiology

SpA Guidelines

Ax-SpA/Ankylosing Spondylitis
- ASAS/EULAR
doi:10.1136/annrheumdis-2011-200350
- SPARTAN/ACR/SAA
  - Revision in process 2018!

Psoriatic Arthritis
- EULAR
2012;71:4-12
doi:10.1136/annrheumdis-2011-200350
- GRAPPA
- ACR – pending 2018!

AS Treatment Recommendations

ASAS/EULAR recommendations for the management of AS

Education, exercise, physical therapy, rehabilitation, patient associations, self help groups

NSAIDs

Axial disease

Peripheral disease

Sulfasalazine

Local corticosteroids

Antagonists

Surgeries

TNF blockers
**DMARDS (SAARDS) in AS: SSZ**

- **RCT:** Included patients with AS with no peripheral disease (N=67)
- **Analysis demonstrated a consistent effect of SSZ in axial disease (Clinically significant improvement, [ASDAS > 1.1] seen in 67.7% SSZ vs. 15.1% placebo (P < 0.001)).**

**Khanna Sharma, Int J Rheum Dis 21 (1), 308-314. 2017 Jul 24**

**Tofacitinib in AS**

Secondary endpoints: BASMI + SPARCC-SI

**Only outcomes with dose response!**

**Dolinka van der Heijde et al. Ann Rheum Dis 2017;76:1340-1347**

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**Biologics & small molecules in AS/axSpA**

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Green = FDA approved in that disease

* = @ high dose

Adapted from: L Gensler

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**PT in AS/axSpA**

- **Is any physical therapy (PT) better than no PT?**
  - **YES!**

**PT in AS/axSpA**

- **What type of Physical Therapy (PT)?**
- Pilates exercise program of 1 h was given by a certified trainer 3 times a week adapted to the capacity of the patients.
- Home-based exercise program taught by a physical therapist performed individually for 7 days a week with weekly calls by staff: 20 exercises for muscle relaxation, flexibility, muscular strength, stronger breathing, and straight posture.


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**PT in AS/axSpA**

- **A Prescription for exercise**


https://www.spondylitis.org/Spondylitis-Plus/ [Oct 2016]

https://www.arthritisresearchuk.org/
PT in AS/axSpA

https://www.spondylitis.org/Spondylitis-Plus/ [Oct 2016]
https://www.arthritisresearchuk.org/

Comorbidities in AS/axSpA

- **Heart disease** – statin for cholesterol
- **Osteoporosis/Low Bone Density** – Vitamin D, DEXA scan if over 50
- **Infectious diseases** – Immunizations: Flu, pneumonia (x2), tetanus, shingles; alcohol gels

Summary

- There is a new way to classify AS within axial spondyloarthritis
- Axial spondyloarthritis happens because of high inflammation and abnormal repair process
- Treatment involves modifying chemical signaling or blocking various cells in the immune “military”
- Physical therapy is important
- Management of comorbidities (heart disease, bone weakness, infections) is important

Questions?