

Diagnosing and Treating Common Rheumatologic Problems in Older Adults

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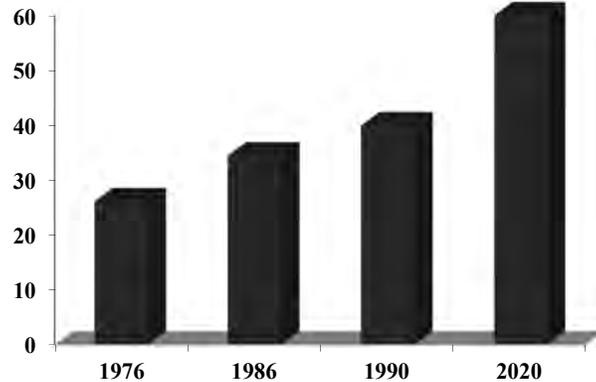
Discussion Outline

- Discuss common rheumatic issues in senior adults
- Case based format
- Discuss role of health care provider team
- Questions and answers

The Impact of Arthritis

Data from National Center for Health Statistics

Numbers of Persons affected by a Musculoskeletal Condition in the US by Year (millions)



Musculoskeletal Disease in Perspective

- Equal with heart disease as source of activity limitation
- Twice as many women as men report presence of arthritis and twice as likely to be limited
- 20% in low income and 13% in high income report presence of arthritic condition; 6% vs. 1.6% report limiting
- 6 million older adults with arthritis do not seek help for their symptoms

Common Musculoskeletal Problems in Seniors

- Osteoarthritis
- Fibromyalgia
- Rheumatoid arthritis
- Gout
- Polymyalgia rheumatica



Resources for Health Care Professionals

- Clinical Care in the Rheumatic Diseases - Association of Rheumatology Professionals
www.rheumatology.org/arhp/index.html
- Arthritis Help Book - Arthritis Foundation
www.arthritis.org
- Arthritis Foundation pamphlets on line plus other educational material www.orthop.washington.edu
- Arthritis Foundation of Washington/Alaska
www.arthritis.org/Communities/Chapters/Chapter.asp?chapid=56
- American College of Rheumatology -
www.rheumatology.org

Rheumatology Pearl

- There are only 3 patterns to joint pain:
 - Inflammatory
 - Mechanical (non-inflammatory)
 - Fibromyalgia



■ Inflammatory

- AM stiffness > 30 min (often several hrs)
- Improvement with activity
- Swelling common
- Rheumatoid arthritis, polymyalgia rheumatica



■ Mechanical

- 10-15 minutes of AM stiffness
- Pain worse with use
- Osteoarthritis, tendonitis



■ Fibromyalgia

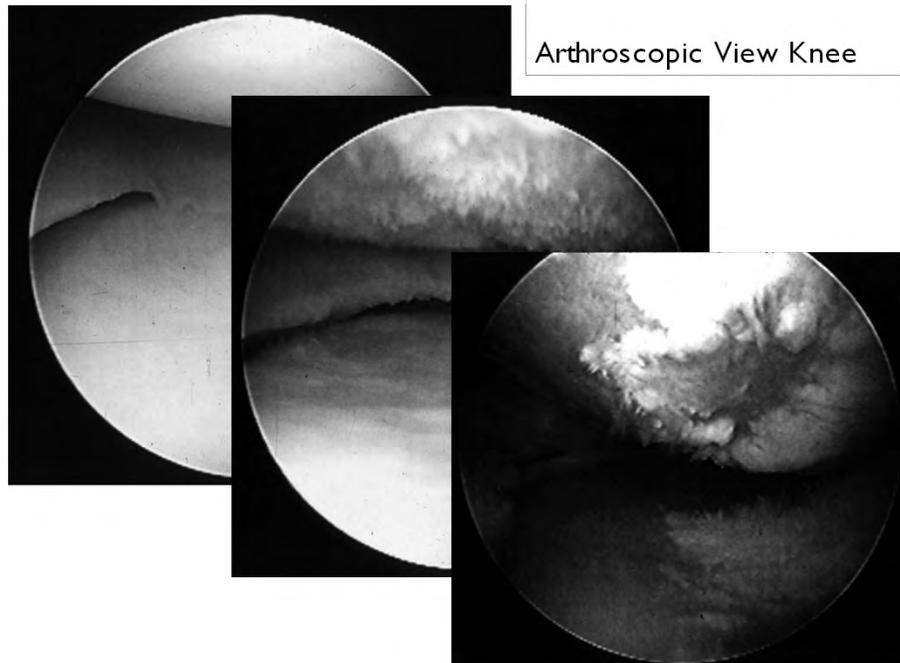
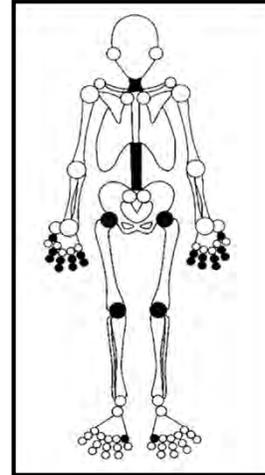
- AM stiffness significant
- Poor sleep quality
- Afternoon pain and fatigue
- *Exercise intolerance i.e. feeling “wiped out”*
- Other somatic illnesses common ie headaches

Case

- 70 y/o woman with 8 months of progressive right groin pain. Little pain in the AM but progressive pain with use. Having trouble putting on stocking on right side. Pain 6-7/10 currently. Ibuprofen reduces pain to 3-4/10.
- Examination reveals reduced internal rotation and extension of the right hip

Osteoarthritis

- Most common form of arthritis
- 60 million adults in US have OA
- Women > Men
- Prevalence increases with age
- Genes, dysplasia, weight, trauma



Clinical Manifestations of OA

- Minimal AM stiffness/pain
- Increasing symptoms with use
- Deformity
- Gelling

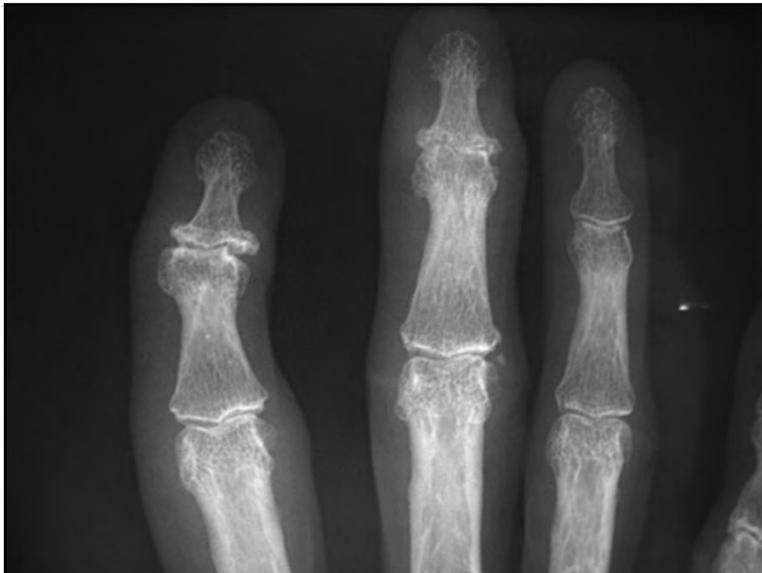
Hands in Osteoarthritis



Hands in Osteoarthritis



Hands in Osteoarthritis



X ray Changes in OA



X-ray findings:

- Subchondral sclerosis
- Joint space narrowing
- Osteophytes
- Subchondral cysts



Ordering X-Rays

- Hip films - AP/frog leg views
- Knee films - AP and lateral
- Wt bearing knees

Treatment of Osteoarthritis



Surgical Therapy

Pharmacologic Therapy

Nonpharmacologic Therapy

Summary of Suggested Non-Pharmacologic Rx in OA of the Knee and Hip (2012 ACR OA Treatment Guidelines)

• Strongly Recommended

- Aerobic or resistance land based exercise
- Aquatics exercise (initial for those who find land based difficult)
- Loose weight if needed (4 x rule)

• Conditionally Recommended

- Self management programs
- Patellar taping of knee
- Medially/laterally wedged insoles for knee OA
- Use walking aids
- Participate in tai chi



• No recommendation

- Knee braces

Hochberg et al
Arthritis Care &
Research
2012;64:465-
474

Summary of Suggested *Initial* Pharmacologic Rx in OA of the Knee and Hip (2012 ACR OA Treatment Guidelines)

• Recommended

- Acetaminophen
- Topical NSAIDs (knee, > 75 yrs)
- Oral NSAIDs
- Tramadol
- Corticosteroid injections

• Not Recommended

- Chondroitin sulfate
- Glucosamine
- Topical capsaicin



• No recommendation

- Hyaluronate injections
- Duloxetine
- Opioid analgesics

Hochberg et al
Arthritis Care &
Research
2012; 64: 465-
474

Gardner's Rule #9

“In osteoarthritis, do not plan on reducing the pain completely, leave some memory pain behind”

10 Top Reasons People Don't Exercise



1. Pain	77%	6. No Access	
	25%		
2. Fatigue	62%	7. No Buddy	20%
3. Weather	53%	8. Injury	19%
4. Motivation	36%	9. Cost	11%
5. No Time	29%	10. Transport	4%

Belza and Chang: Unpublished data

Exercise and Arthritis

In general people with arthritis:

- Less aerobically fit than peers especially when lower extremities involved
- Able to exercise sufficiently to increase fitness
- Do not have worsening of arthritis when involved in exercise programs
- Group involvement alone may have benefit

Benefits of Exercise in Arthritis

Improvement has been noted in:

- Aerobic fitness
- Muscle strength/flexibility
- Depression/anxiety scores

Other potential benefits:

- Cardiovascular mortality
- Osteoporosis
- Self efficacy



Minor et al: Arthritis Rheum 1989;32:1396
Wigers et al: Scand J Rheumatol 1996;25:77

#722 Intensive Diet and Exercise for Arthritis (IDEA) Knee OA 18 Month Outcomes. Messier et al

- 454 pts with mean BMI 33.6 randomized to:
 - Exercise 30 min walk, 20 min weight training 3x week
 - Diet with goal of >10% BW loss
 - Diet plus exercise
- Outcome: WOMAC scores
- Results:
 - 85-89% completed

Group	Wt reduction	Pain Improve	Walk Speed Improve	Function Improve
D&E	11.5%	51%	12%	47%
D	9.5%	27%	10%	30%
E	2.2%	29%	6%	24%
		P=0.0004	P=0.004	P=0.003

Topical NSAIDs

- Haroutiunian et al Pain Medicine Review 2010
 - Topical NSAIDs appear as effective as oral medication in several studies for up to 12 months of therapy
 - Minor skin related SEs but few if any systemic SEs
 - Used effectively for OA knee, sprains, tendonitis
 - *Not effective* for wide spread pain, neuropathic pain, or acute or chronic LBP
 - Compared to oral meds, topical administration results in:
 - Lower plasma, synovial tissue, and synovial fluid levels
 - Higher cartilage and meniscal concentrations.
 - Equal muscle tissue levels.
 - Levels may differ by individual

Surgical Intervention for People with OA

Surgical therapy is best for:

- Uncontrolled pain
- Immobility
- Age > 70
- Slender build
- Good health
- Sedentary lifestyle



X-rays of 1st MTP Osteoarthritis



Dorsal osteophytes



OA 1st MTP - Treatment

- Rx of pain - NSAIDS, capsaicin cream, glucosamine & chondroitin, injection
- Shoe modification - wide toe box, rocker bottom, stiff sole (graphite insert can be added)
- Modification of activities - avoid impact loading i.e. substitute swimming/biking for running
- Surgery - unresponsive pain not cosmesis



OA: Role of the Health Care Team

- Nursing - educational materials, medication compliance and side effects
- Nutrition - weight loss very important in OA of LE joints
- Pharmacist - medication compliance and interactions
- PT/OT - ROM, strength, contractures, aerobic activity, ambulatory aids
- Social Work - modifying home environment, financial issues around surgery, placement issues

Case

- A 68 y/o woman c/o of 1 year of diffuse muscle and joint pain. Has been to multiple care providers without an explanation of her symptoms. Fatigued in the AM and after any significant activity. Husband died 2 years ago. Sleeps poorly and wakes often during the night. Rarely goes out with friends any more because of the way she feels.
- On examination, she occasionally is tearful with describing her situation. No signs of joint swelling or muscle weakness. Tender to touch in various muscles. Lab work including CBC, TSH, chemistry panel, ESR all normal

Fibromyalgia

- Prevalence 3.4% Women, 0.5% Men
- Peak ages 25-45; can occur at at age
- Literature suggests >30% prevalence of mood disorder
- 11% on disability in US
- Co-existing illness common

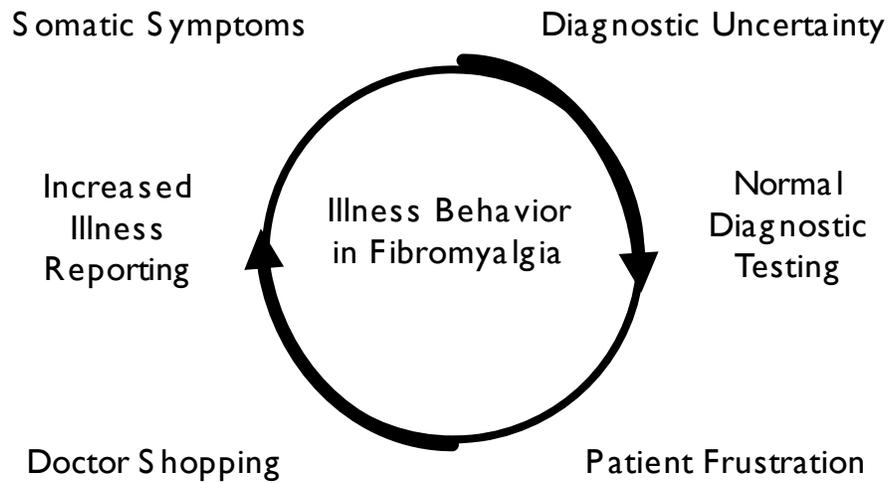


Fibromyalgia: Symptoms

- *Widespread pain*
- *Marked fatigue*
- *Sleep disturbance*
- *Cognitive difficulty*
- *Exercise intolerance*
- *Headaches, IBS, TMJ, pelvic pain*



Fibromyalgia via the Medical Model of Illness



Fibromyalgia: Possible Causes

- Stage 4 sleep disturbance (sleep apnea)
- General deconditioning
- Neuroendocrine abnormalities
- Childhood abuse and neglect
- Psychological factors



Approach To Fibromyalgia

- Confirm Dx, R/O mimics
- Address 3 major issues
 - Sleep - TCA/ambien etc; consider apnea etc.
 - Deconditioning - stretching and slowly progressive aerobic exercise: send to PT X 1-2
 - Distress - help identify life goals; address victimization issues; treat mood disorder; work/volunteer activities important
- Make sure patient knows their role
- On follow up focus on pt improvement; minimize meds
 - Pregabalin
 - Duloxetine
 - Milnacipran



Basic Laboratory Testing in Fibromyalgia

CBC
ESR
Chemistry panel
TSH
Vitamin D
+/- CPK
+/- Hepatitis C

Avoid checking ANA or
RF without objective
abnormalities.

Treatment Assignments

Care Provider

- Confirm Dx
- R/O mimics
- Provide counseling
- Use medications sparingly
- Recognize limitations of medical therapy
- Make sure Pt is active involved in care; will not improve without doing most of the work

Patient

- Continue work, volunteer
- Take medication
- Psychological help
- STRETCH & EXERCISE PROGRESSIVELY
- Recognize limitations of medical therapy including perils of taking opiates

Not the way to do exercise



Osler on Biopsychosocial Medicine

“It is more important to know what sort of patient has a disease than what sort of disease a patient has.”

Sir William Osler

Fibromyalgia: Role of the Health Care Team

- Nursing - educational materials, discuss issues of pacing and monitor medications
- Nutrition - discuss dietary issues, weight loss is needed, and avoiding fads
- Pharmacist - medication compliance and interactions
- PT/OT - ROM, progressive aerobic activity critical
- Social Work - work, family issues; may need in-depth counseling

Patient History

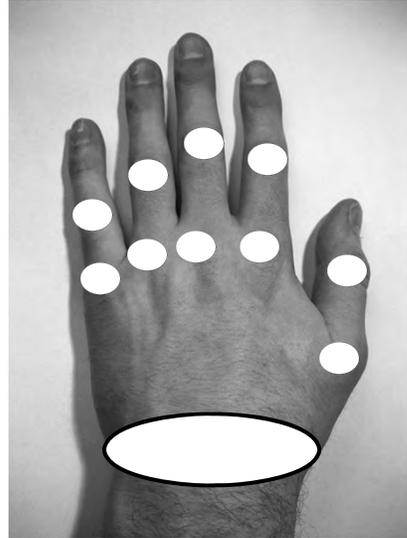
- A 58 year old artist complains of pain and stiffness in the morning for the past 5 months. He is having increasing difficulty squeezing his paints and holding his brushes. Has noted swelling of the joints in his hands as well.
- Examination – swelling of the MCPs, and PIPs of both hands, wrists, knees and MTPs bilaterally.

Rheumatoid Arthritis

- Inflammatory autoimmune disease
- Affects 1-2% of US population
- 1st degree relative has double the risk
- Women:Men 3:1
- Occurs in women predominately during childbearing years and men and women equally past 60

Rheumatoid Arthritis

- Women > men
- Inflammatory pattern
- Polyarthritis
- Laboratory tests helpful
- Joint distribution.....



Natural History of RA



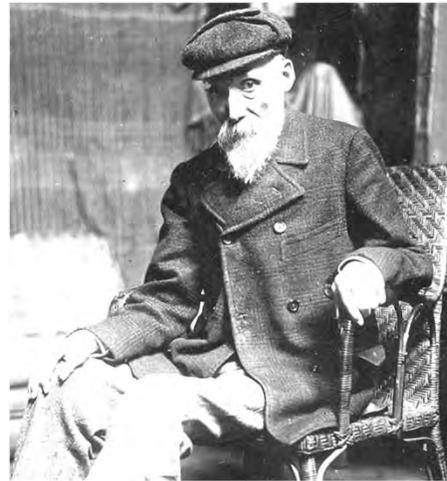


Luncheon of the Boating Party 1881
Phillips Collection Washington DC

The arthritis begins



BMJ 1896



1901

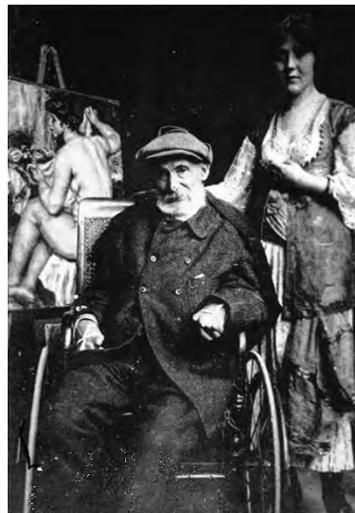
The Family of the Artist
1896
The Barnes Foundation



The arthritis progresses



1903



1911



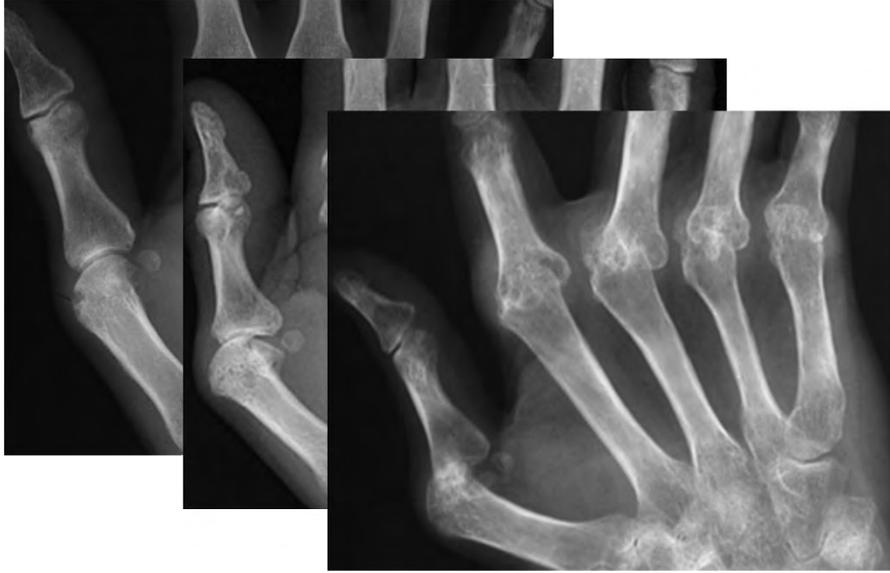
"The pain passes but the beauty remains"



RA Feet



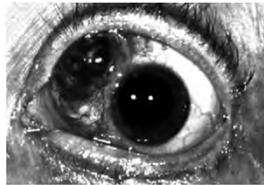
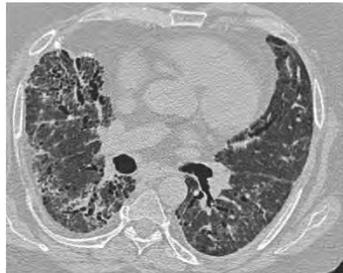
Progressive X-ray changes in RA



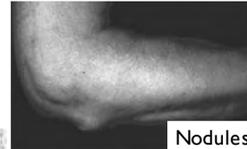
Joint Erosions in RA: From Bad to Worse

Rheumatoid Arthritis:
Extra-Articular Disease

CT scan showing pulmonary fibrosis



Scleromalacia



Nodules



2° Sjogren's

Vasculitis

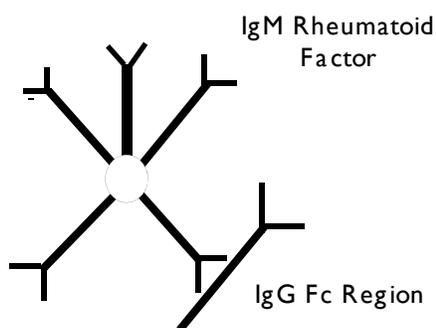


Carpal Tunnel

Laboratory Tests

- Anemia of chronic disease
- Elevated ESR and/or CRP
- Elevated rheumatoid factor
- Elevated CCP (cyclic citrullinated peptide)

Rheumatoid Factor



Points to remember!

- High level; worse prognosis
- May take months to appear
- 20-30% of RA Pts never develop
- Not specific for RA

- Rheumatologic Disease
RA, SLE, Sjogren's, MCTD,
PM/DM, Cryoglobulinemia
- Infectious Disease
SBE, TB, Syphilis, Hep C
- Other
Aging, IPF, Cirrhosis,
Sarcoidosis, Waldenstrom's

Anti-CCP (ACPA)

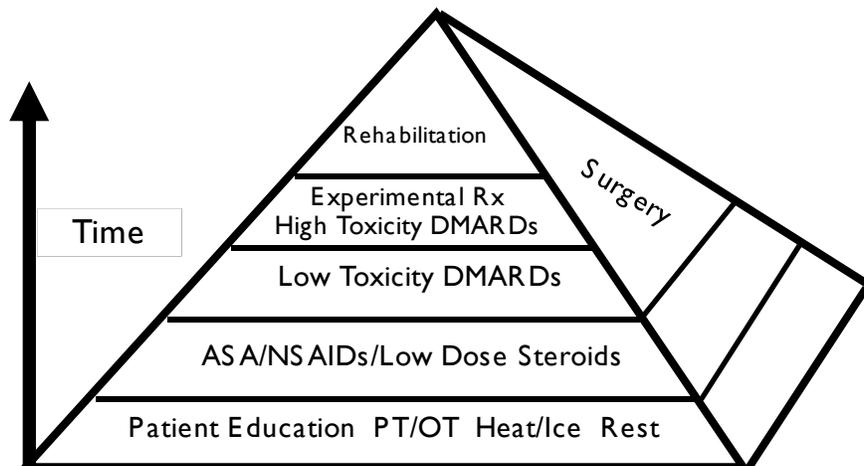
- Antibodies to Cyclic Citrullinated Peptide (CCP) have a sensitivity of 78% and specificity of 96% for RA
- 40% of “seronegative RA” are anti-CCP +
- Level of CCP correlated with development of erosions
 - Negative , low-moderate (35-200) or high CCP (>200)
 - OR of radiographic progression vs CCP negative RA pts after 10 yrs
 - Negative 1.0
 - Low-moderate 3.2
 - High 15.2

Schellekens. Arthritis Rheum 2000;43:155

1989 a Landmark Year for Rheumatology



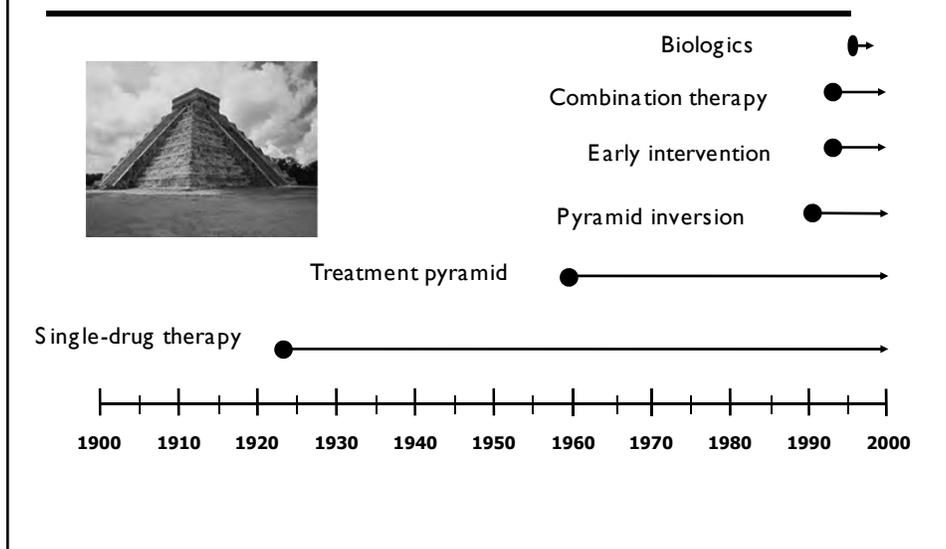
When I was a Fellow: Pyramid Approach to the Treatment of Rheumatoid Arthritis



1980s: Usual therapy in RA was not working (Go Low Go Slow)

- > 90% of RA patients have erosions after 2 yrs
Fuchs HA, et al: J Rheumatol 1989;16:585-591
- 5 - 10% of RA patients become disabled each yr
Kushner I: J Rheumatol 1989;16:1-4
- Only 18% of RA patients achieve a period of remission during the course of their disease.
Wolfe F, Hawley DJ: J Rheumatol 1988;12:245-252
- Median life expectancy decreased 4 yrs for men and 10 yrs for women with RA
Mitchell DM, et al: Arthritis Rheum 1986;29:706-713

Changes in Treatment Approaches to RA



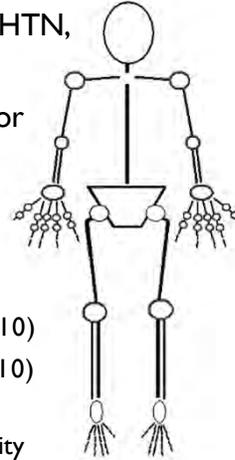
Irving Kushner, M.D.
J Rheumatol 1989;16:1-4

“What we need in RA is a drug for which one does not need a statistician to see the beneficial effects”



2019 Treating to target critical in the therapy of rheumatoid arthritis

- Used to thinking about treating to target i.e. HTN, DM, lipids
- Various disease activity indices developed for clinical use to measure disease activity
 - Example CDAI or clinical disease activity index
 - Tender joint count (0-28)
 - Swollen joint count (0-28)
 - Patient's global assessment of their status (0-10)
 - Physicians global assessment of Pt status (0-10)
 - 0-3 remission; 4-10 low disease activity; 11-22 moderate disease activity; >22 high disease activity



28 joints

U Cambridge

Therapies For RA 2019

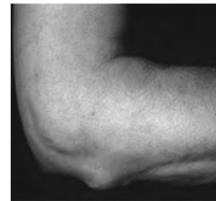
- Conventional DMARDs
 - Methotrexate
 - Hydroxychloroquine
 - Leflunomide
 - Sulfasalazine
- Anti-TNF agents
 - Etanercept
 - Adalimumab
 - Infliximab
 - Certolizumab
 - Golimumab
- Anti-B cell agent
 - Rituximab
- Anti-T cell agent
 - Abatacept
- Anti-IL-6 receptor antagonist
 - Tocilizumab/Sarilumab
- JAK inhibitor
 - Tofacitinib/Baricitinip
- IL-1 receptor antagonist
 - Anakinra
- New agents are on their way!

RA Treat to target 2019 for Primary Care

1. Start medications as soon as possible
 - Early therapy improves outcome!!!
 - Wait times may be too long where you practice to see rheumatology to delay initial therapy
 - Methotrexate is used in most patients
2. Review disease activity on a regular basis; modify Rx to achieve low disease activity or remission quickly
 - Be familiar with methotrexate and hydroxychloroquine
 - Ok to use LD prednisone in addition to Mtx

Poor Prognostic Features in RA

- Significant functional limitation
- Extra-articular disease
 - Nodules
 - Eye disease
 - Etc
- High level rheumatoid factor (RF) or cyclic citrullinated peptide (CCP)
- Presence of bony erosions



2012 ACR Paradigm for Treating RA of Less Than 6 months Duration Singh et al Arthritis Rheum 2012

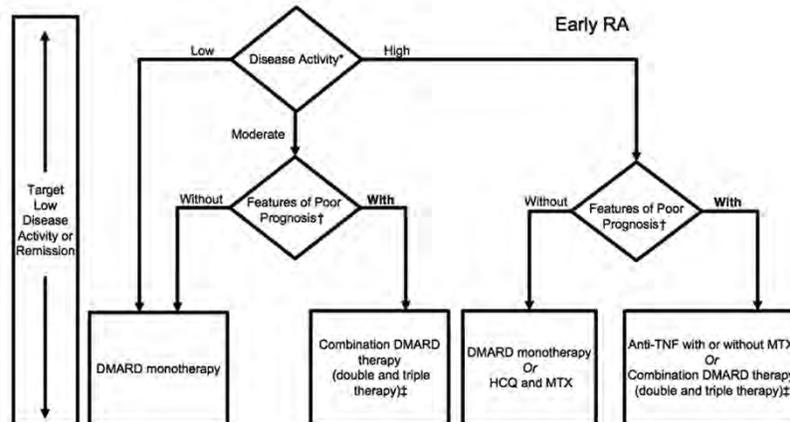


Figure 1. 2012 American College of Rheumatology recommendations update for the treatment of early rheumatoid arthritis (RA).

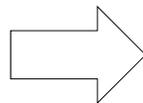
Poor prognostic features: functional limitation (e.g., Health Assessment Questionnaire score or similar valid tools), extraarticular disease (e.g., presence of rheumatoid nodules), high level of rheumatoid factor or anti-cyclic citrullinated peptide antibodies, and bony erosions by x-ray.

Rheumatoid Arthritis Then and Now

- Fewer people with disability, extra-articular manifestations or even deformities; mortality rates dramatically down
- Continue to fine tune treatment and work toward remission inducing and maintaining therapy
- Pts Dxed today will never know how sick they could be!



1980s



2019

RA: Role of the Health Care Team

- Nursing - educational materials, medication compliance and side effects, administer medications, preauthorization for expensive medications
- Nutrition - low fat diet, vitamin supplements
- Pharmacist - medication compliance and interactions
- PT/OT - ROM, strength, contractures, aerobic activity, ambulatory aids
- Social Work - Disability and work issues, financial issues around surgery

Case

- A 67 y/o man c/o pain in the base of the 1st toe every few months. The pain gets so bad he cannot walk on the toe and it gets red and swollen. It lasts about a week and then resolves. If he uses Aleve it will go away sooner. Used to drink heavily and still has 2 beers a day. He is on hydrochlorothiazide for his HTN.
- Examination reveals white bumps on his ears and nodules on his elbows. No joint swelling noted today

The Gout



Evidenced Based Issues in Gout

- 1st attack comes after years of hyperuricemia
- 90% have 1st MTP involved at some time during disease
- Rare in women before menopause
- Level of uric acid in serum predicts development of tophi
- Older women on diuretics may develop tophi without Hx of a acute gout
- UA level may go down to NI during attack

Acute Gout



Interval
Hyperuricemia

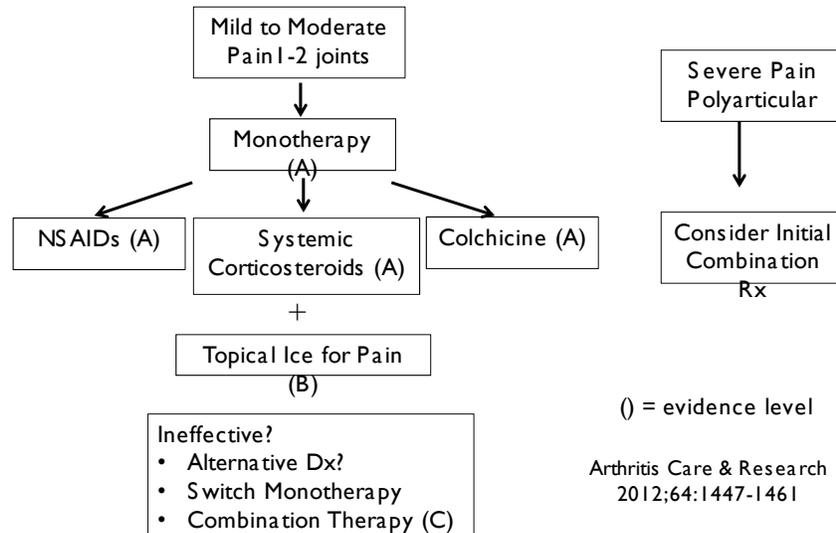


Tophaceous Gout



Step I in Treating Gout: Treat the Acute Attack

ACR Guidelines for Treatment of Gout



Step 2: Modify Risk Factors

1. Avoid certain medications
 2. Avoid beer/ale
 3. Encourage slow wt loss
 4. Discuss a low purine diet and one low in fructose
- Medications to avoid
 - Diuretics
 - Niacin
 - Calcineurin inhibitors
 - LDASA
 - Laxatives in excess
 - “Medications” that help
 - Vitamin C
 - Losartan
 - Statins
 - Dairy products

Step 3: Decisions Regarding Urate Lowering Therapy

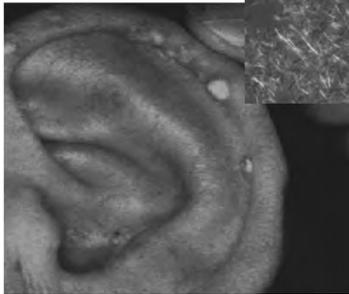
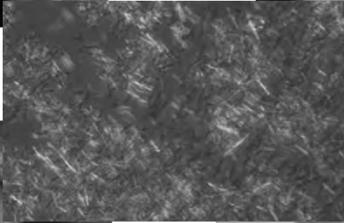
- Reasons to consider urate lowering therapy (ULT)
 - > 2 attacks/year
 - Tophi
 - Kidney stones
 - Chronic persistent gout
 - CKD, CAD??
- Lowering serum uric acid **INCREASES** risk of gouty attack
 - Use colchicine prophylaxis where possible 0.6-1.2 mg/day
 - Can use daily NSAIDs as prophylaxis
 - If unable to use provide Pt with as need use predisone
- Once on ULT in on board, **DO NOT** stop if Pt has gouty attack

Arthritis Care & Research 2012;64:1447-1461

2012 ACR Guidelines for the Treatment of Gout

1. Educate patient on diet, lifestyle, and treatment objectives
2. Xanthine oxidase inhibitors are first line therapy
3. *Treat to target ie < 6 mg/dl (< 5 if tophi present)*
4. Starting dose of allopurinol should be no greater than 100 mg/day and less than 100 mg/day in Pts with CKD; slow upward titration that could exceed 300 mg/day even in CKD
5. *Screen for HLA B5801 allele in Koreans with CKD and all Pts of Thai and Han Chinese descent BEFORE starting allopurinol due to risk of severe hypersensitivity*
6. Can combine uricosuric agent with XOI
7. (Pegloticase (pegolated uricase) can be used in severe gout)

Tophi Recognition



Gout can be a very bad disease



Bad Tophaceous Gout



Tophi + Allopurinol + Patience = Success



Gout: Role of the Health Care Team

- Nursing - educational materials, medication compliance and side effects, arrange for visits with acute attack
- Nutrition - low fat, Wt loss, low urate diet
- Pharmacist - medication compliance and interactions
- PT/OT - general conditioning for Wt loss
- Social Work - occasional work issues, alcohol issues may be important

Patient History

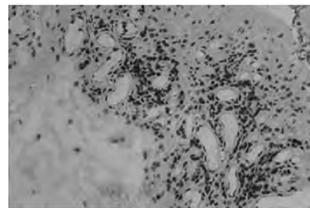
HPI - 70 y/o woman c/o 2 mo of am pain/stiffness in shoulders. Began suddenly. Some low back/hip region pain/stiffness as well. Dx of bursitis made. Steroid injection on R improved all of her symptoms for 1 week. Difficult for her to get out of bed. Often rolls out. Exam - mild global reduced ROM of B shoulders. Mild pain on resisted abduction. Strength is normal.

2008 Consensus Criteria for Diagnosis of PMR

- Age > 50 yrs
- Bilateral shoulder and or pelvic girdle ache
- Duration > 2 weeks
- Duration of AM stiffness > 45 minutes
- Elevated ESR/CRP
- Rapid response to glucocorticoids
 - 75% global response in one week

Clinical Feature of PMR

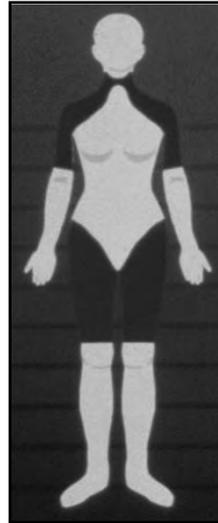
- Acute to subacute onset
- Profound AM stiffness/night pain
- Systemic symptoms
- Articular and periarticular synovitis of hips and shoulders
- 15-20% synovitis knees fingers, wrists
- Carpal tunnel symptoms in 20%
- Genetics similar to RA (PMR and GCA)



Synovial Bx
in PMR

Distribution of Symptoms in PMR

- Shoulder
- Neck
- Low back
- Hips
- Thighs



Treatment of PMR

Systematic Review of the Literature

- Begin prednisone 15 mg/day
- If patient responds, begin taper at 4 wks
 - Taper by 2.5 mg/month until dose is 10 mg/day
 - Taper by 1 mg every 2 months to off
- If no response to 15 mg, increase to 20 mg/day
 - Could also try splitting dose
 - Begin above taper after 4 weeks if response
- Relapse
 - Return to level at which patient was comfortable
 - With repeated relapse, methotrexate 10 mg/week

Hernandez-Rodriguez et al. Arch Intern Med. 2009;169:1839-1850

PMR and Giant Cell Arteritis

- 1-16% with pure PMR develop GCA
- 40-50% GCA have coexisting PMR
- Criteria for GCA:
 - Age > 50*
 - ESR > 50 mm/hr*
 - New headache*
 - TA abnormality/scalp tenderness*
 - Abnormal artery biopsy*
- Jaw claudications, visual changes (blurring, amaurosis, diplopia)

Abnormal Temporal Artery



Treatment of Temporal Arteritis

- 40-60 mg prednisone (divided doses initially?)
- Begin taper 2-4 wks
- Taper approx 10% every 1-2 wks
- Osteoporosis therapy (Vit D, Ca, bisphosphonate)

Salvarani et al. NEJM 2002;347:261

Conclusion

- Musculoskeletal problems common in older adults
- Recognition and treatment can impact quality and in some cases quantity of life
- Non-physician/ARNP may be first to recognize
- Treatment usually requires team approach

