Joint Effort:
Working with Patients with Osteoarthritis and Rheumatoid Arthritis
Target Audience: Pharmacists
ACPE#: 0202-0000-18-058-L01-P
Activity Type: Application-based
Disclosures

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...does not have conflicts of interest to disclose.

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...does not have conflicts of interest to disclose.

The American Pharmacists Association is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.
Learning Objectives

At the completion of this application-based activity, participants will be able to:

1. Compare the available biologic and nonbiologic disease-modifying antirheumatic drugs for rheumatoid arthritis (RA) and select appropriate medication regimens for individual patients.
2. Describe a stepwise approach to minimize pain and maximize functionality in patients with osteoarthritis (OA).
3. Formulate care plans and establish functional goals for patients with OA and RA.
4. Educate patients to support adherence to treatment for OA and RA.
1. Which of the following statements best describes the usefulness of wedge insoles in the algorithm to manage knee osteoarthritis?

A. May correct joint spacing, but will not change symptoms of pain or functionality.
B. May correct joint spacing and functionality, but not symptoms of pain.
C. May correct joint spacing and symptoms of pain, but not functionality.
D. Will correct joint spacing, functionality, and symptoms of pain.
2. In which of the following situations would you recommend using duloxetine to manage symptoms of knee osteoarthritis?

A. 48-year-old man with mild-to-moderate pain when it rains.
B. 52-year-old man unable to take NSAIDs due to CKD (stage 4).
C. 56-year-old man using daily NSAIDs for right knee OA.
D. 54-year-old man with pruritus and erythema secondary to topical NSAID use.

NSAID: Non-steroidal anti-inflammatory drug
CKD: chronic kidney disease
3. What is the best folic acid regimen to give with methotrexate to optimize adherence?

A. 1 mg daily
B. 1 mg daily except on day of methotrexate administration
C. 5 mg weekly
D. 10 mg weekly
4. A patient is responding well to rheumatoid arthritis treatment. You know that it may be possible to withdraw therapy and maintain response. Which drug should be tapered first?

A. Adalimumab
B. Methotrexate
C. Prednisone
D. The order is based on clinical judgment
Osteoarthritis
Patient Case

Gail, 52-year-old woman

“Is there something that will help my right knee? I want to start playing volleyball again, but I need something to help my right leg to not hurt.”
Patient Case

Gail, 52-year-old woman

Medications: Metformin 500 mg twice daily
Aspirin 81 mg once daily
amlodipine 5 mg once in the evening

Medical Hx: Type 2 diabetes mellitus
Overweight/Obesity (BMI 29)
Hypertension

BMI: Body Mass Index
## Professional Recommendations
### American College of Rheumatology (ACR)

<table>
<thead>
<tr>
<th>Absolutely YES</th>
<th>Conditional YES</th>
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<tbody>
<tr>
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<td>Thermal agents</td>
</tr>
<tr>
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<td>Walking aids</td>
<td>Topical capsaicin</td>
</tr>
<tr>
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<td>Acupuncture</td>
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<tr>
<td>IA corticosteroids</td>
<td>Transcutaneous</td>
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*NSAID: non-steroidal anti-inflammatory drug
IA: intra-articular*
Professional Recommendations

ACETAMINOPHEN

- Effective medicine to reduce pain scores, but...
  - On a 100-point visual analog scale, reduction would reduce pain by 3 to 4 points.
  - Typically, the minimum score change to be “clinically relevant” is 9 or greater.

*BMJ 2015 Mar 31;350:h1225*
Professional Recommendations

NSAIDs

- Greater effect on pain than acetaminophen, but...
  - ...several more adverse events with regular use.
  - ...unclear change in cardiac risk.

- Topical formulations provide pain relief with few to no systemic adverse events.

Cochrane Database Syst Rev 2016 Apr 22;(4):CD007400
Professional Recommendations

TRAMADOL

- Reduces pain from osteoarthritis by 8.5 points (on a 100-point scale).

- Risk of adverse events (minor or major) was greater than rate of moderate improvement of pain.

Professional Recommendations

INTRA-ARTICULAR STEROIDS

- Option for patients unable to tolerate oral medicines.
- Several limitations to consider:
  - Early benefits (4-6 weeks), but wear off quickly.
  - Results in accelerated cartilage loss in joint space.

JAMA 2017 May 16;317(19):1967
### Professional Recommendations

**American College of Rheumatology (ACR)**

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*Arthritis Care & Research* 2012;64(4):465-74

NSAID: non-steroidal anti-inflammatory drug  
IA: intra-articular
Patient Case

Gail, 52-year-old woman

“But, wait....”
Patient Case

Gail, 52-year-old woman

“I’ve tried acetaminophen and it doesn’t work.”

“Every time I use NSAIDs I get horrible heartburn.”

“My insurance won’t cover the ‘pain cream.’”

“I’m not taking anything that will make me loopy.”

“If you come near me with a needle, you’re going to be the one in pain.”
Patient Case

Gail, 52-year-old woman

“My friend told me...”
“I saw on Facebook...”
“My nephew used to be a nurse and he said...”
# Professional Recommendations

American College of Rheumatology (ACR)

<table>
<thead>
<tr>
<th>Non-pharmacologic</th>
<th>Pharmacologic</th>
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<tbody>
<tr>
<td>Insoles</td>
<td>Hyaluronates</td>
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<tr>
<td>Knee braces</td>
<td>Duloxetine</td>
</tr>
<tr>
<td>Manual therapy (massage)</td>
<td>Opioids</td>
</tr>
<tr>
<td>Lateral patellar taping</td>
<td></td>
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</tbody>
</table>

*Arthritis Care & Research* 2012;64(4):465-74
Non-pharmacologic devices & braces

© Nevit Dilmen [CC BY-SA 3.0 (https://creativecommons.org/licenses/by-sa/3.0)]
https://upload.wikimedia.org/wikipedia/commons/b/b6/Medical_X-Ray_imaging_AEl02_nevit.jpg
Non-pharmacologic devices & braces
Non-pharmacologic devices and braces

Load-reducing brace

- Designed to reposition the knee and create greater joint space.

- Found to have no difference in the following outcomes compared to placebo:
  - Pain
  - Knee function
  - Walking distance
  - Quality of life

Non-pharmacologic devices and braces

Insoles

- Correct pronation or supination that may shift weight and stress on the knees.

- (Lateral/Medial) wedge insoles
  - No difference in pain, stiffness, or walking distance

- Subtalar strapping
  - No difference in pain, stiffness, or walking distance

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Pharmacologic options

Duloxetine

- Serotonin and norepinephrine reuptake inhibitor
  - Weak dopamine reuptake inhibition

- Dosing recommendations for management of:
  - Major depressive disorder, generalized anxiety disorder
  - Fibromyalgia, diabetic neuropathy, chronic musculoskeletal pain (knee OA included).
Pharmacologic options

Duloxetine

<table>
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<tr>
<th>Author, Year</th>
<th>Design</th>
<th>Outcomes</th>
<th>Results</th>
</tr>
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<tr>
<td>Wang, 2017</td>
<td>1:1</td>
<td>BPI 24-hour pain rating</td>
<td>&gt;30% pain reduction</td>
</tr>
<tr>
<td></td>
<td>Duloxetine 60 mg Placebo</td>
<td>WOMAC</td>
<td>Greater functional improvement</td>
</tr>
<tr>
<td></td>
<td>13 weeks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abou-Raya, 2012</td>
<td>1:1</td>
<td>VAS</td>
<td>&gt;20% change in pain and function</td>
</tr>
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<td>WOMAC</td>
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<tr>
<td></td>
<td>16 weeks</td>
<td></td>
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</table>

VAS: Visual Analog Scale
WOMAC: Western Ontario and McMaster Universities Arthritis Index
# Pharmacologic options

## Duloxetine

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<th>Outcomes</th>
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<tr>
<td>Chappell, 2011</td>
<td>R, DB, PC Duloxetine 60-120 mg Placebo 12 weeks</td>
<td>BPI 24-hour pain rating WOMAC CGI-S</td>
<td>&gt;30% pain reduction Greater functional improvement</td>
</tr>
<tr>
<td>Chappell, 2009</td>
<td>R, DB, PC Duloxetine 60-120 mg Placebo 13 weeks</td>
<td>24 hour pain score WOMAC</td>
<td>&gt;50% pain reduction Greater functional improvement</td>
</tr>
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</table>

*BPI: Brief Pain Inventory  
CGI-S: Clinical Global Impression - Severity  
WOMAC: Western Ontario and McMaster Universities Arthritis Index*
Pharmacologic options

Duloxetine

- 10 to 15% of patients were not able to tolerate duloxetine for various adverse events:
  - Nausea
  - Constipation
  - Hyperhidrosis
  - Somnolence
Pharmacologic options
Where does DULOXETINE belong in the landscape?

- Unique in that it offers a maintenance treatment option for patients with osteoarthritis.

- Consider when acetaminophen and/or NSAIDs taken daily are too burdensome for a patient or causing adverse events.
2. In which of the following situations would you recommend using duloxetine to manage symptoms of knee osteoarthritis?

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NSAID: Non-steroidal anti-inflammatory drug
CKD: chronic kidney disease
Pharmacologic options

Hyaluronate injection

- Biological polysaccharide with both viscous and elastic properties.

- Recommendations for use in:
  - Osteoarthritis of the knee
  - Facial wrinkles
  - Cheek & lip augmentation
  - Skin ulcerations
Pharmacologic options

Hyaluronate injection

- Plagued with inconsistencies:
  - Inconsistent recommendations for use from different professional bone/joint organizations.
  - Inconsistent dosing regimens.
  - Inconsistent evidence for its effect (or lack of) in clinical trials.

J Am Acad Orthop Surg. 2013 Sep;21(9):571-6
Arthritis Care Res (Hoboken). 2012 Apr;64(4):465-74
Pharmacologic options

Hyaluronate injection

- **What should we tell patients when they ask?**

- Injections are a high-risk procedure with questionable likelihood of benefit.
- Try all other options before considering injection therapy
- Injection therapy may be delaying the inevitable
  - “What are your goals for using this therapy?”
Pharmacologic options

Hyaluronate injection

- IF the patient chooses to use sodium hyaluronate injections, consider...
  - Formulations with higher molecular weight tend to perform better (> 3,000 kDa).
  - Injections are provided as frequent as every 6 months.


kDa: Dalton
## Stepwise Considerations

<table>
<thead>
<tr>
<th>STEP 1</th>
<th>Weight loss</th>
<th>Acetaminophen</th>
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<tbody>
<tr>
<td>Physical Activity</td>
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</table>

<table>
<thead>
<tr>
<th>STEP 2</th>
<th>Physical Therapy</th>
<th>NSAIDs (systemic or topical)</th>
</tr>
</thead>
</table>

<table>
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<tr>
<th>STEP 3</th>
<th>Referral to orthopedics specialist</th>
<th>Duloxetine</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Tramadol</td>
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<tr>
<td></td>
<td></td>
<td>Intra-articular injections*</td>
</tr>
</tbody>
</table>

*Adapted from: *Semin Arthritis Rheum.* 2014 Dec;44(3):253-63

*corticosteroids or hyaluronate*
Patient Case

Gail, 52-year-old woman

1) Weight loss + physical activity
2) Physical therapy
3) Duloxetine 60 mg once daily
   a. Evaluate renal and hepatic function
   b. Evaluate for behavioral health concerns
   c. Counsel regarding orthostasis and other adverse events
Rheumatoid Arthritis
Rheumatoid Arthritis (RA)

- Most common adult autoimmune inflammatory arthritis
- Prevalence: 1% of population; all populations affected
- Females > males: 2-3 fold; peak onset 50-75 y, but can occur at any age
- Joint involvement & extra-articular manifestations
- Affects quality of life & productivity; can increase mortality
- Recent progress in understanding disease is leading to new drugs and regimens that can prevent deformities, maintain quality of life, and achieve remission

Patient Case

42-year-old woman presents with 2-month history of morning stiffness & increasing joint pain affecting ability to carry out activities of daily living

- Medications: Nonprescription ibuprofen and naproxen as needed
- Allergies: Sulfonamides
- Physical exam: soft tissue swelling and tenderness of both 2nd and 3rd finger proximal interphalangeals, tenderness of two metacarpophalangeals bilaterally, tenderness and effusion of left wrist with ↓ range of motion, and effusion in both knees.
- Labs: Chemistries are normal except albumin 3.2 g/dL, hemoglobin 10.5 g/dL, ESR 40 mm/h, hsC-reactive protein 21 mg/L, positive rheumatoid factor (RF) at 120 IU/mL, and anti-cyclic citrullinated protein > 250 units.
ACR/EULAR 2010 RA Classification Criteria

- Designed for early diagnosis of RA (for use in studies)
- Patients with \( \geq 1 \) swollen joint
- Points assigned in 4 categories
- Score \( \geq 6 \) classifies patient as having definite RA

ACR=American College of Rheumatology
EULAR=European League Against Rheumatism
ACR/EULAR 2010 RA Classification Criteria

- Joint involvement
  - # small & large joints involved

- Serology
  - ⊕ RF +/or anti-citrullinated peptide antibody

- Acute phase reactant
  - Erythrocyte sedimentation rate (ESR) +/or CRP

- Symptom duration
  - < 6 weeks vs. ≥ 6 weeks

Our patient’s score: 10 (definite RA)

Rheumatoid Arthritis Treatment Goal

REMlSSION

Rheumatoid Arthritis Treatment Goal

Low Disease Activity

Rheumatoid Arthritis Treatment Goal
Disease Activity Measures

- Clinical Disease Activity Index (CDAI)
- Simplified Disease Activity Index (SDAI)
- Disease Activity Score with 28-joint counts (erythrocyte sedimentation rate or C-reactive protein) (DAS28-ESR, DAS28-CRP)
- Patient Activity Scale (PAS or PAS-II)
- Routine Assessment of Patient Index Data with 3 measures (RAPID-3)
- ACR20-50-70 (% response)

Rheumatoid Arthritis Treatment Goal

Disease Activity Measures

- Disease Activity Score with 28-joint counts (plus erythrocyte sedimentation rate or C-reactive protein)

- Example: DAS28-ESR

Our patient’s score: 5.5 (high activity)

- Remission $<$2.6
- Low activity $\geq 2.6$ to $<3.2$
- Moderate activity $\geq 3.2$ to $\leq 5.1$
- High activity $>5.1$

Adherence (10.5-98%; overall 66% with RA)

- Over 200 associated variables
- Disease severity, age, race, duration of RA & therapy
- Adverse effect experience or concerns
- Financial/insurance issues
- Belief in necessity, confidence in prescriber
- Poor understanding of disease, medications, regimens
- Busy lifestyle, number of medications

Wong PKK. Rheumatol Int. 2016;36:1535-42.
Adherence

- Education
- Education
- Education
- Visual aids
- Address patient concerns, involve in choice of drugs
- Consider financial situation
- Clinician-patient relationship, frequency of contact

Wong PKK. Rheumatol Int. 2016;36:1535-42.
Patient Case

- Additional information
- Upon further questioning, patient reports:
  - Dental problems with swollen gums
  - Smokes 1 pack per day
  - Drinks small glass of wine 1-2 nights/week
Patient Case

- Periodontitis - relationship to RA
  - Shared risks: HLA-DRB1 expression, aging, smoking
  - Pathogen Porphyromonas gingivalis releases enzyme mediating protein citrullination leading to formation of anti-citrullinated protein antibodies
  - Both: cytokine-induced inflammation (tumor necrosis factor (TNF), interleukin (IL)-6, IL-17) & bone erosion
  - RA hand & temporomandibular joint involvement impairs dental care

Assess

**Patient Case**

- Smoking - relationship to RA
  - Major risk factor for developing RA
  - Higher disease activity
  - Lower rate of disease remission
  - Reduced response to tumor necrosis factor-alpha (TNFα) inhibitors, methotrexate, antimalarials

Patient Case

- Alcohol - treatment considerations
  - Risk for hepatic disease
  - Concern for use of potentially hepatotoxic drugs
    - e.g., methotrexate (MTX), leflunomide
  - MTX risk not increased with <14 alcohol units/week
    - 1 unit = 10 mL (8 g) alcohol = 76 mL standard 13% wine,
      25 mL standard 40% whiskey, 250 mL standard 4% beer
    - 1-3 drinks/week okay but check liver enzymes monthly
      for first 6 months

https://www.drinkaware.co.uk/alcohol-facts/alcoholic-drinks-units/what-is-an-alcohol-unit/
ACR Rheumatoid Arthritis Treatment

- Disease-Modifying Antirheumatic Drug (DMARD)-naïve
- Early (< 6 months duration) or established (≥ 6 months)
- Low or moderate-high disease activity
- DMARD monotherapy preferred over combination
  - Methotrexate preferred (or, e.g., sulfasalazine, leflunomide)
- Consider low dose (≤ 10 mg prednisone or equivalent), short-term (< 3 months) corticosteroid if moderate-high disease activity when DMARD initiated and for flares
  - Lowest possible dose & shortest duration

EULAR Rheumatoid Arthritis Treatment

- Disease-Modifying Antirheumatic Drug (DMARD)-naïve
- Start treatment as soon as diagnosis made
- DMARD monotherapy preferred with MTX
  - If contraindicated, sulfasalazine or leflunomide
- Consider short-term corticosteroid when DMARD initiated; taper as soon as possible
- Monitor response every 1-3 months
  - If no improvement at 3 months or not at target at 6 months, adjust treatment

Patient Case

- Start methotrexate 10 mg weekly and prednisone 10 mg daily
- Encourage smoking cessation
- Advise not to increase alcohol consumption
- Suggest visits to dentist or periodontist and aggressive treatment of periodontal disease along with good daily tooth care
- Assess immunization record
Methotrexate

- Screen for hepatitis
- Screen for pregnancy; counsel about pregnancy & contraception
- Monitor complete blood count, liver transaminases, serum creatinine at baseline and:
  - Every 2-4 weeks up to 3 months
  - Every 8-12 weeks from 3-6 months
  - Every 12 weeks after 6 months

Methotrexate

- Adherence 59-63%
- Label vial with day of week based on patient preference
- Give with folic acid 1 mg daily

Caffeine

- Decrease effectiveness?
- ↓ intolerance with coffee or dark chocolate?
  - Gastrointestinal, behavioral, general

Methotrexate

- Increase dose as needed based on response
- Split oral dose over 15 mg, give 8 h apart
  - Decreased absorption due to saturation of reduced folate carrier 1
- Consider changing from oral to subcutaneous route
- Over 1/3 patients will respond to methotrexate monotherapy

3. What is the best folic acid regimen to give with methotrexate to optimize adherence?

A. 1 mg daily
B. 1 mg daily except on day of methotrexate administration
C. 5 mg weekly
D. 10 mg weekly
Patient Case

- Patient was seen monthly and methotrexate dose increased
- Her joints have improved some, but low disease activity has not been achieved (DAS28-ESR 4.0)
- What treatment should be tried next?
Synthetic Disease-Modifying Antirheumatic Drugs Approved For RA

- **Conventional**
  - (csDMARD*)
  - Methotrexate
  - Sulfasalazine
  - Leflunomide
  - Hydroxychloroquine

- **Targeted Small Molecule**
  - (tsDMARD^)
  - Tofacitinib
  - Cyclosporine
  - Azathioprine
  - Auranofin
  - Gold sodium thiomalate

*csDMARD=conventional synthetic disease-modifying antirheumatic drug
^tsDMARD=targeted synthetic disease-modifying antirheumatic drug
Biologic DMARDs Approved For RA

- **TNF inhibitors**
  - Etanercept
  - Infliximab
  - Adalimumab
  - Golimumab
  - Certolizumab pegol

- **Non-TNF Biologics**
  - T-cell costimulation blocker:
    - Abatacept
  - IL-6 inhibitors:
    - Tocilizumab
    - Sarilumab
  - Anti-CD20 on B cells:
    - Rituximab
  - IL-1 receptor antagonist:
    - Anakinra

ACR Rheumatoid Arthritis Treatment

- Early (<6 months) or established (≥6 months) RA with moderate or high disease activity despite monotherapy
  - Combination traditional DMARDs
  - Tumor necrosis factor (TNF) inhibitor +/- methotrexate (MTX)
  - Non-TNF biologic +/- MTX
- Established RA:
  - Alternative: Tofacitinib +/- MTX
- Consider short-term corticosteroid

EULAR Rheumatoid Arthritis Treatment

- Bad prognostic factors (RF, anti-CCP, high disease activity, early joint damage, failed ≥2 csDMARDs)
  - Absent: Change to or add second csDMARD (sulfasalazine, leflunomide)
  - Present: Add biologic (TNF inhibitor or other) or JAK-inhibitor (tofacitinib)
  - With glucocorticoid

JAK=Janus kinase

Comparisons (Few head-to-head)

- AMPLE trial: MTX + sc adalimumab or abatacept
  - Randomized, investigator-blinded phase IIb
  - Biologic-naïve, active RA, inadequate response to MTX
  - After 2 y similar efficacy by ACR20-50-70 & radiologically
  - More serious infections, adverse effect discontinuations, & injection site reactions with adalimumab
  - Similar improvements in patient-reported outcomes

Comparisons

- ORAL strategy trial: tofacitinib +/- MTX vs adalimumab + MTX
  - Randomized, double-blind phase IIIb/IV, noninferiority trial
  - Active RA, inadequate response to MTX
  - At 6 & 12 months, similar efficacy & toxicity for MTX with tofacitinib or adalimumab
  - Tofacitinib monotherapy was not noninferior to the combinations

Comparisons

- Patients with inadequate MTX response randomized to MTX- etanercept or MTX-sulfasalazine-hydroxychloroquine
  - 48-week randomized, double-blinded noninferiority trial
  - If no improvement at 24 weeks, switched to other arm
  - Open-label extension up to 72 weeks
  - No difference in clinical response
  - Greater durability of triple therapy

Comparisons (mostly database derived)

- Network meta-analysis: MTX-sulfasalazine-hydroxychloroquine vs. MTX-TNFα antagonist in patients with inadequate MTX response
  - 6 months - triple therapy 65% less likely to achieve ACR70
- National VA database, open cohort study
  - TNF inhibitor + MTX vs MTX-sulfasalazine-hydroxychloroquine
  - Lower adherence & persistence with triple therapy at 1 year

Comparisons

- CORRONA registry - TNF-experienced patients, active RA
  - Similar results with abatacept & tocilizumab at 6 months
- ADACTA - randomized, double-blind, phase IV comparison of monotherapy with tocilizumab vs. adalimumab
  - Greater response with tocilizumab
  - More adverse effects with tocilizumab: ↑ LDL cholesterol + ALT; ↓ platelets + neutrophils


LDL=low density lipoprotein
ALT=alanine aminotransferase
Comparisons

- ACT-iON - 52-week prospective, observational, global comparative effectiveness study
  - Patients with inadequate response to csDMARDs
  - TNF inhibitor vs. IV tocilizumab
  - DAS28-ESR and CDAI assessed
  - Better improvement and drug survival with tocilizumab

- Tocilizumab with csDMARD vs. monotherapy
  - Similar clinical response
  - Shorter retention (duration) with monotherapy

BeSt – RA Study

Behandel-Strategieën – “treatment strategies”

Dr. van den Broek 2010

Dr. Allaart 2011

Dr. Klarenbeek 2009

Dr. Markusse 2014

Drs. Allaart & Akdemir 2015
BeSt: Treatment Strategies

- Group 1: Sequential DMARD monotherapy
- Group 2: Step-up combination therapy
- Group 3: Initial combination therapy with tapered high-dose prednisone
- Group 4: Initial combination therapy with infliximab
- Target: low disease activity

BeSt: Low Disease Activity

BeSt: Remission at 10 Years

IMPROVED Study-Drug-Free Remission Steered

- Early RA (<2 years) or undifferentiated arthritis
- 610 patients evaluated every 4 months with target of drug-free remission
- Induction with methotrexate & prednisone (adjusted)
- If not in remission at 4 months, randomized
  - Group 1 (83): MTX, sulfasalazine, hydroxychloroquine, prednisone; if not in remission, adalimumab & MTX
  - Group 2 (78): Adalimumab & MTX

IMPROVED Study-Drug-Free Remission Steered

- At 5 years, similar results among groups
  - 48% (295/610) in remission
  - 54% in drug-free remission at least once
  - 26% in drug-free remission for at least 1 year
  - Few achieved continuous drug-free remission
  - Better outcomes for 63% (387/610) in remission at 4 months

Patient Case

Considerations

- Patient had partial response to MTX
- Was sc MTX tried?
- Patient has sulfonamide allergy - avoid triple therapy
- Patient does drink alcohol - MTX + leflunomide both hepatotoxic
- Patient still smoking - ↓ response to TNF inhibitors
- Patient offered tofacitinib oral 1-2x/day or tocilizumab IV every 1-2 months or sc every 1-2 weeks. She preferred self-administered injection
Patient Case

- Prior to starting, test for tuberculosis and hepatitis B, liver function tests (LFTs), lipids, blood count (CBC), vaccinations
- Regularly check LFTs, CBC, lipid panel
- Make sure patient will be able to obtain drug
  - In study, >50% patients did not fill biologic prescription within 30 days
- Counsel about storing syringes in refrigerator
  - Majority of patients do not maintain proper storage temperatures for biologics
- Instruct how to administer drug
- Encourage to find smoking cessation program

**Tapering or Withdrawal of Treatment**

- Tapering more likely to be successful than stopping all therapy
  - Reducing dose or extending interval; best results early RA
- Consider tapering biologic or tofacitinib if persistent remission (6-12 mo) *after tapering steroid* and if combined with csDMARD
- If flare after stopping, 80-90% can regain good outcome
- Consider tapering csDMARD if in persistent remission
- Can lower costs and decrease risk of adverse events
- Do not stop all therapy?

4. A patient is responding well to rheumatoid arthritis treatment. You know that it may be possible to withdraw therapy and maintain response. Which drug should be tapered first?

A. Adalimumab  
B. Methotrexate  
C. Prednisone  
D. The order is based on clinical judgment
Rheumatoid Arthritis Treatment Goal
Key Points

- Initiate RA treatment early
- Therapeutic target must be set
- Frequent monitoring and therapy adjustments essential to achieve goal
- Remission is possible
- If sustained remission, consider tapering or withdrawal of therapy
- Treatment only works if patient takes it
- Adherence and education are key!!!
Questions?