

Rheumatoid Arthritis: Expectations of Treatment

Prevention of joint deformities

Prevention of disability

Prolongation of lifespan

Treatment Strategies

Treat early

Treat “hard”

Treat with combination of agents

Treat with a targeted goal

Medications

- There are four types of medications used to treat RA:
 - Non-steroidal anti-inflammatory drugs (NSAIDs)
 - Disease-modifying anti-rheumatic drugs(DMARDS).
 - Corticosteroids
 - Biologic Response Modifiers (“Biologics”)

Corticosteroids

Examples	General Use	Side Effects	Nursing Considerations
Cortisone, hydrocortisone, prednisone, betamethasone, dexamethasone	<ul style="list-style-type: none"> • Used in the management inflammatory conditions • When NSAIDs may be contraindicated • Promptly improve symptoms of RA 	<ul style="list-style-type: none"> • Increased appetite • Weight gain • Water/salt retention • Increased blood pressure • Thinning of skin • Depression • Mood swings • Muscle weakness • Osteoporosis • Delayed wound healing • Onset/worsening of diabetes 	<ul style="list-style-type: none"> • Take medications as directed (adrenal suppression) • Used with caution in diabetic patients • Encourage diet high in protein, calcium, potassium and low in sodium and carbohydrates • Discuss body image • Discuss risk for infection

Disease-modifying anti-rheumatic drugs(DMARDs)

- May take several weeks to months before they become effective
- immunosuppressive activity
- Reduce inflammation of rheumatoid arthritis
- Slows down joint destruction
- Preserves joint function

Therapeutic Strategies

- Use of early DMARDs
- Combinations of Conventional DMARDs
 - Three studies have confirmed the use of “triple therapy” in early RA is more effective than a single agent. (Clin Exp Rheumatol 17:699-704, 1999, Arthritis Rheum 50:2072-81, 2004, Arthritis Rheum 46:1164-70, 2002).
- Combinations of Methotrexate plus Biologic agents

What are DMARDs?

- Disease Modifying Anti-Rheumatic Drugs (DMARDs).
 - Symptom Control
 - Control current inflammatory features
 - Modify the course of disease
 - Reduce joint damage and deformity
 - Reduce radiographic progression
 - Reduce long-term disability

Available DMARDs

- Methotrexate
- Sulfasalazine (Salazopyrin[®])
- Hydroxychloroquine (Plaquenil[®])
- Leflunomide (Arava[®])
- Gold (Myochrisine[®])
- Others
 - Cyclosporine
 - Azathioprine
 - Cyclophosphamide

Methotrexate

- Substitutes as Folic Acid
 - Interferes with the production of Tetrahydrofolate
 - Interferes with the de novo synthesis of purines
 - Affects cells that rapidly turn over
 - Immune cells
 - Mucosal cells
 - Hair follicles

Methotrexate – What to tell Patients

- **Dose and Administration**
 - Dose ranges from 7.5 to 25 mg
 - ONLY GIVEN ONCE A WEEK
 - 2.5 mg Tablets or Subcutaneous Injection 25 mg/mL
- **Onset of Action**
 - 6-8 weeks
- **Avoid**
 - Pregnancy – Teratogenic
- **Common S/E**
 - Malaise, Nausea
 - Rise in Liver Enzymes

Hydroxychloroquine (Plaquenil®)

- Anti-malarial medication found useful for the treatment of inflammatory arthritis
- Highly concentrated within cells
- Increases intracellular pH
- Interferes with cell's ability to degrade and process proteins
- Common S/E
 - Rash, nausea, diarrhea
 - Difficult with reading (affects accommodation)
 - Ophthalmologic screen for visual acuity, colour vision, and visual fields yearly

Sulfasalazine

- Anti-inflammatory: Salicylic Acid
- Antibiotic: Sulfapyridine
- Sulfasalazine consists of salicylic acid and sulfapyridine joined by an azo bond.
- Sulfapyridine is thought to be the active ingredient although, in RA, the mechanism of action is not understood
- Takes 6-8 weeks to work
- Common S/E: Malaise, Nausea, Abd pain, Rash, headaches, dizziness

Leflunomide (Arava®)

- inhibits the activity of dihydro-orotate dehydrogenase, an important enzyme in the de novo synthesis of pyrimidines.
- Onset of Action
 - 6-8 weeks
- Avoid
 - Pregnancy – Teratogenic
- Common S/E
 - Diarrhea, nausea, malaise, hypertension, alopecia, rash

Biologics

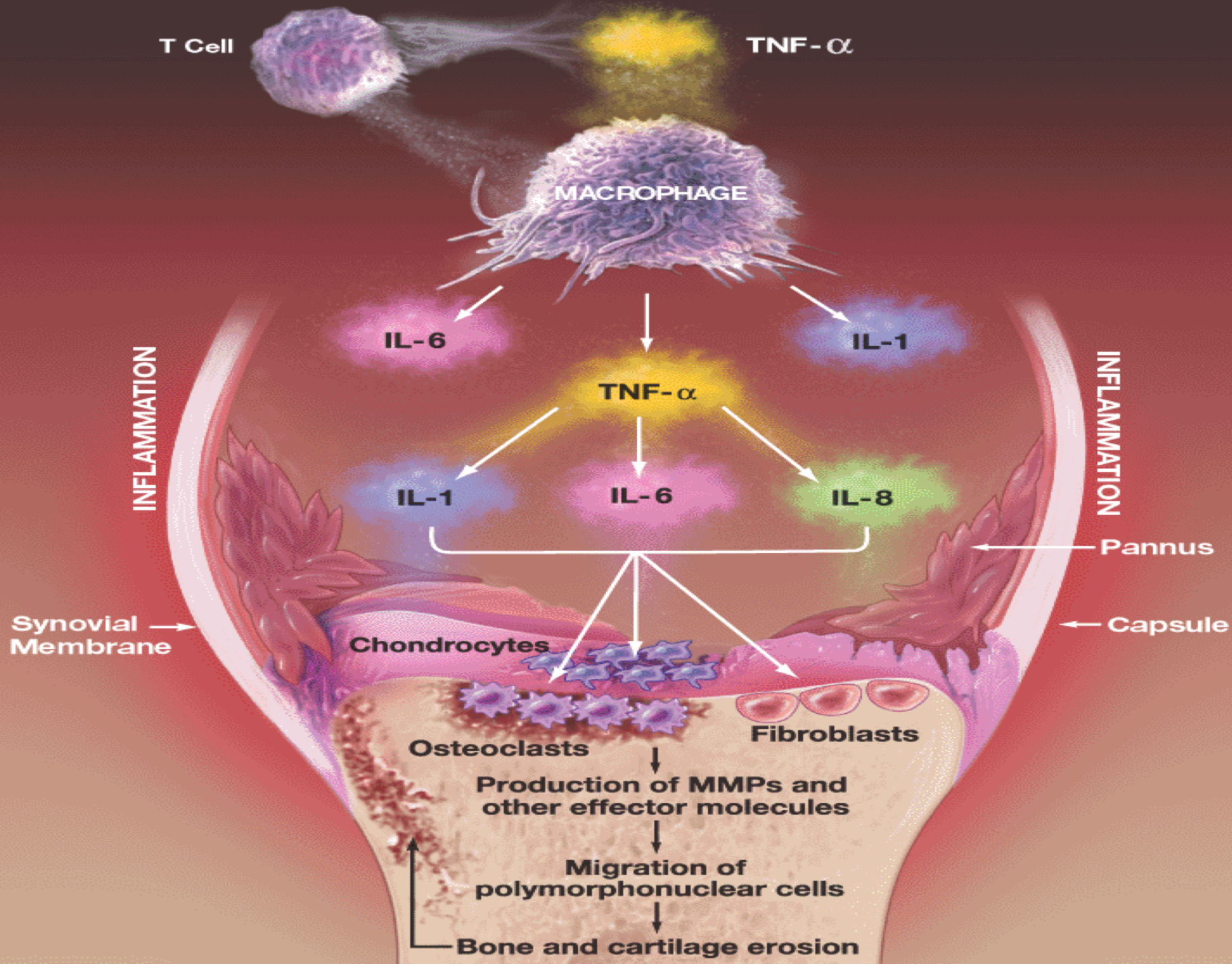
- Specially designed to treat inflammatory types of arthritis such as rheumatoid and psoriatic arthritis.
- Six biologics currently available (and more coming)
- Work by different mechanisms.
- Like DMARDs, biologics are used to suppress inflammation and help prevent damage to the joint.

Current Available Biologics

- **TNF Inhibitors**
 - Adalimumab
 - Etanercept
 - Infliximab (Remicade)
- **IL-1 Inhibitors**
 - Anakinra (Kineret)
- **T-Cell Co-Stimulatory Blockade**
 - Abatacept (Orencia)
- **B-Cell Depletion**
 - Rituximab (Rituxan)

TNF Inhibitors

- In some people with arthritis, a protein called Tumour Necrosis Factor (TNF) is present in the blood and joints in excessive amounts where it increases inflammation (pain & swelling).
- Infliximab and Adalimumab are antibodies directed against TNF.



Side Effects of TNF Inhibition

- **Infection**
 - Tuberculosis
 - Serious resulting in death
- **Neurologic**
 - Multiple Sclerosis, seizures, inflammation of the ocular nerve
- **Worsening of Congestive Heart Failure**

- Remember

STOP if develop a fever, have an infection,