

Pharmacology Team 2

Our notes are in orange

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**Disease –Modifying Antirheumatic
Drugs (DMARDs)**

Slow Acting Anti-inflammatory Drugs

By

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General Features

- Low doses commonly are used early in the course of the disease. **b/c it's chronic disease**
- Used when the disease is progressing & causing deformities .
- Can not repair existing damage, but prevent further injury & deformity
- Have no analgesic effects **but it prevent the cause of the pain**
- Their effects need from 6 weeks to 6 months to be evident

Clinical Uses

- Treatment of rheumatoid arthritis (RA).

1-Hydroxychloroquine

Mechanism of action :

- Stabilization of lysosomal activity
- Trapping free radicals
- Suppression of T lymphocytes

Adverse Effects : the most important are in purple*

- Nausea & vomiting
- Irreversible retinal damage*
- Corneal deposits*
- Allergic skin reactions
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2-Methotrexate

It's an Immune suppressant drug

Mechanism of Action:

- Inhibition of polymorphonuclear chemotaxis.
- Potent inhibitor of cell –mediated immune reactions (T cells).

Adverse Effects :

- Nausea
- Mucosal ulcers* in any mucosal area in the body
- Bone marrow depression*
- Hepatotoxicity is dose related

3-Tumor necrosis factor- α (TNF- α) blocking agents

Infliximab

Is a new drug that works on TNF- α which acts as an inflammatory mediator for a lot of diseases. These drugs are selective "act on one specific mediator", that's why it acts on TNF- α .

Mechanism of action:

- is a chimeric = (prepared from 2 components) (25% mouse , 75% human) antibody.
- Binds with high affinity to human TNF- α resulting in inhibition of macrophage & T cell function.
- Given as IV infusion
- Half-Life 8-12 days

- Given every 8 weeks regimen.
- Infliximab elicits up to 62% incidence of human antichimeric antibodies.
(immunity may create antibodies against the drug its self due to its origin)
- Concurrent = (at the same time) therapy with methotrexate decreases the prevalence of human antichimeric antibodies

62% patient develop antibodies against it , since it's chimeric , so give it with methotrexate

Adverse Effects :

- Upper respiratory tract infections
- Headache
- Cough
- Activation of latent tuberculosis
(patient with past history of TB never given Infliximab)
- Infusion site reaction

Contraindication :

Infliximab with anti-TB

Comparison

DMARDs

- Slow onset of action
- 6 weeks-6 months
- Arrest the progression of the disease.
- Prevent formation of new deformity.
- Used in chronic cases when deformity is exciting

NSAIDs

- Rapid onset of action
- Few minutes –few hours
- No effect on the progression of the disease
- Can not stop the formation of new deformity.
- Used in acute cases to relief inflammation & pain

- Both treat RA

SO patient with acute rheumatoid arthritis

1- No deformity = NSAIDs only

2- With deformity = NSAIDs + DMARDs