

GUIDEBOOK

RHEUMATOID ARTHRITIS

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AFCM-Egypt 2023 iGEM team**



WHAT IS RHEUMATOID ARTHRITIS?



- Rheumatoid Arthritis is an autoimmune disorder that occurs when your immune system mistakenly attacks healthy tissues in your body.
- It is also a chronic inflammatory disease that affects your joints, mainly those of the hands, wrists and knees.
- In some people, the condition can also damage a wide variety of body systems, including the skin, eyes, lungs, heart and blood vessels causing long-lasting or chronic pain.

SIGNS & SYMPTOMS OF RHEUMATOID ARTHRITIS

A case of rheumatoid arthritis usually begins insidiously, with the slow development of signs and symptoms first notices stiffness in one or more joints and most probably in the morning, so called "Morning Stiffness". This is usually accompanied by pain on movement and tenderness in the joints.



Patients complain of swelling in one or two joints that may last a few days to weeks then completely fade away then return later in the same or other joints, with a pattern increasing over time. The most frequently involved joints are those of the peripheries like fingers and wrists (small joints), then there are some nonspecific systemic symptoms as fatigue, malaise, depression and low grade fever (37° to 38°C).

With RA, there are times when symptoms get worse, known as "flares", and times when symptoms get better, known as "remission".



GENETIC PREDISPOSITION

- Rheumatoid Arthritis is considered a genetic disorder with a substantial genetic component and a heritability estimate of 60%.
- So, if a relative (parent, sibling, etc.) has RA, it increases one's risk of getting the disease, 0.8% compared to 0.5% for those who have no family history.

RISK FACTORS

- 1- Smoking increase risk of RA in people with ACPA positive
- 2- Obesity and increased BMI cause elevation of RA
- 3- High birth weight more than 4 kg increase risk of RA
- 4- Breast feeding for more than 12 months decrease risk of RA
- 5- Estrogen increase risk of RA so female in higher risk for developing RA than males

Healthy Lifestyle Habits can Help Prevent Rheumatoid Arthritis



No smoking



Moderate
Alcohol
consumption



Healthy
Body mass
Index (BMI)



Good
Physical
Activity



Healthy Diet

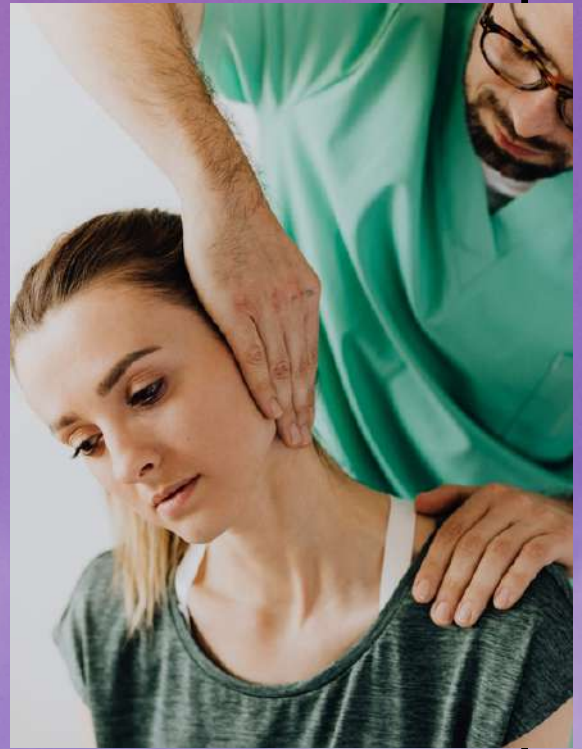


Treatment of Rheumatoid Arthritis

Treatment of rheumatoid arthritis consists of an integrated approach that is divided into pharmacological and non-pharmacological therapy.

NON-PHARMACOLOGICAL

Physiotherapy: laser acupuncture, underwater ultrasound (US) therapy, trans-electrical nerve stimulation (TENS), transcutaneous stimulation of the cervical vagal nerve, and neuromuscular electrical stimulation.



Balneotherapy: radon containing spa, and sulphur spa therapy, and Red Sea mud.

Diet : It is preferred to decrease caffeine, lactose ,and gluten



NON-PHARMACOLOGICAL



COMPLEMENTARY AND ALTERNATIVE MEDICINE

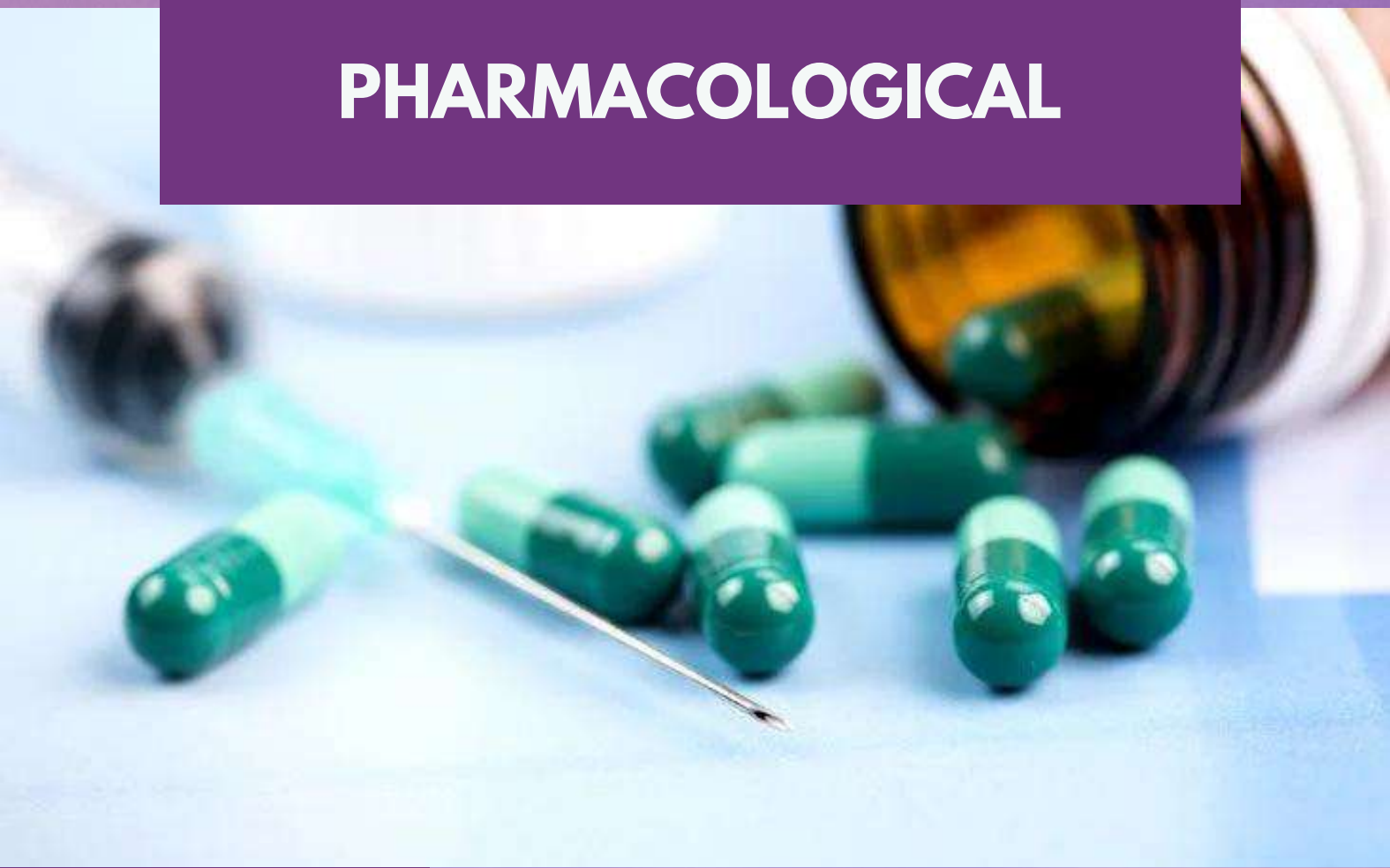
Hyperbaric oxygen therapy is effective for joint pain in patients with RA based on data from multiple, validated clinical measures.

PHARMACOLOGICAL

NSAIDS (Aspirin , Voltaren, Ibuprofen....) which can provide some side effects as stomach aches, diarrhoea, and vomiting



DMARDS (Methotrexate is an example of DMARDS which is contraindicated in pregnancy) which can induce some fatigue, hair loss, and loss of appetite and these side effects can reduce with folic acid supplement. Methotrexate can be possible when breastfeeding if its weekly dose is 25mg or less. However, you must not breastfeed for 24 hours after taking your medicine and make regular blood tests for your baby to check for any side effects.



CORTICO STEROIDS

Corticosteroids (Prednisolone, Methylprednisolone, Hydrocortisone skin cream...) they can cause unpleasant side effects, such as an increased appetite, mood changes and difficulty sleeping. This side effects will disappear once you finish treatment, but you have to stop the drug gradually for withdrawal symptoms and under the supervision of health care provider.

PHARMACOLOGICAL



BIOLOGICAL TREATMENT

(Adalimumab, Abatacept, Tocilizumab, Rituximab, Anakinra, Janus kinase inhibitors) they are commonly acceptable and well tolerated in long-term use. They are relatively expensive and their main adverse event is an increased risk of infection, but this also depends upon additional factors such as concomitant glucocorticoid use, patient's age and comorbidities, as well as an underlying increased risk associated with RA itself.

ASSOCIATED DISEASES



Premature heart disease
Diabetes.

Obesity. People with RA
who are obese have an
increased risk of
developing heart disease
risk factors such as high
blood pressure and high
cholesterol.



ASSOCIATED DISEASES

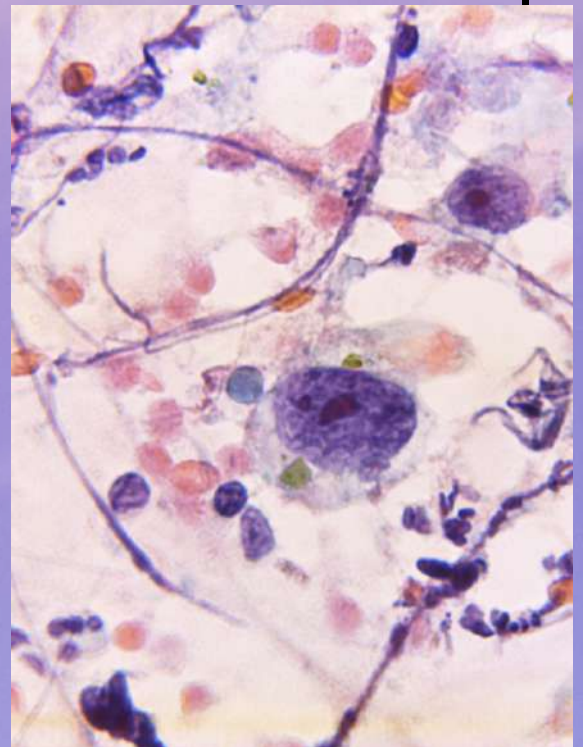


Autoimmune diseases

(such as Systemic Lupus Erythematosus and Psoriasis): The presence of other autoimmune diseases in patients with RA can lead to increases in both disability and mortality, or these autoimmune diseases can arise or be exacerbated as a result of RA treatment

Cancers related to RA, including:

- Lung cancer
- Prostate cancer
- Leukaemia
- Myeloma
- Non-melanoma skin cancer.
- Lymphoma (very high incidence)





SAFE TREATMENT JOURNEY

FOR MORE INFORMATION, YOU CAN VISIT THE FOLLOWING WEBSITES:

[HTTPS://WWW.MAYOCLINIC.ORG/](https://www.mayoclinic.org/)

[HTTPS://WWW.WEBMD.COM/](https://www.webmd.com/)

[HTTPS://MY.CLEVELANDCLINIC.ORG/](https://my.clevelandclinic.org/)

OR, YOU CAN WATCH THE FOLLOWING VIDEO THAT BRIEFLY EXPLAINS THE DISEASE:

[HTTPS://WWW.YOUTUBE.COM/WATCH?V=EB5ZXDAQGZU](https://www.youtube.com/watch?v=EB5ZXDAQGZU)

& YOU CAN CONTACT US AT: AFCMEGYPT@GMAIL.COM