

# Clinical Pearls: Cases in Rheumatology

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# Question 1

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35 years old woman with history of rheumatoid arthritis came to your office for a follow up visit having done very well for the past 6 months on prednisone 5 mg daily, methotrexate 15 mg weekly and infliximab 3mg/kg (200mg) IV every 8weeks.

She complains of fever, night sweats, generalized myalgias, joint pains and chest pains for the past 4 weeks. She has no actively inflamed joints.

# Labs

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Chest X-ray shows a new right pleural effusion.

ESR 85 mm/hr, Hct 30%, WBC 4500, platelet count 450,000

Rheumatoid factor 1:2560

ANA 1:160 homogeneous, anti-DNA neg

Pleural tap reveals exudative fluid, cultures pending.

# Which would be the most appropriate action at this time?

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1. Discontinue methotrexate
2. Start prednisone 60 mg/day
3. Discontinue infliximab
4. Referral to rheumatology to switch from infliximab to etanercept

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# Biologics-TNF Inhibitors

- **Enbrel** (TNF receptor IgG fusion protein, acts as a decoy receptor that binds to TNF $\alpha$ )
- **Infliximab** (Chimeric monoclonal antibody against TNF $\alpha$ )
- **Adalimumab** (First fully human monoclonal antibody against TNF $\alpha$ )
- **Certolizumab** (PEGylated Fab' fragment of a humanized TNF inhibitor monoclonal antibody)
- **Golimumab** (Fully human monoclonal antibody against TNF $\alpha$  as a once monthly subcutaneous treatment)

# TNF inhibitors side effects

- Serious infections including TB
- Increasing risk of certain types of cancer (such as Hematologic & Skin cancers)
- New heart failure or worsening of heart failure
- Nervous System Problems such as multiple sclerosis, optic neuritis
- Immune reactions including a lupus-like syndrome.
- Allergic reactions

# Question 2

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52 years old male with a history of rheumatoid arthritis complains of 3 weeks of flu-like symptoms, fever and non-productive cough. He notices dyspnea while climbing one flight of stairs.

He is doing well on Methotrexate, which he started 6 weeks ago, 15 mg/ weekly. He has no swollen or painful joints nor complains of morning stiffness. He has never taken steroids.



# Physical Examination

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Pertinent findings:

Rectal temp 101.1 F

RR 40/min

Mid-inspiratory crackles on the auscultation

Characteristic deformities of RA bilateral hands

# Labs

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Hct 39%

WBC 10,200

Plt 401,000

ABG pO<sub>2</sub> 45, pCO<sub>2</sub> 28, Ph7.49

Chest Xray- diffuse bilateral interstitial and alveolar infiltrates

# Which of the following is most likely diagnosis?

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1. Influeza
2. Tuberculosis
3. Aspergillosis
4. Rheumatoid lung involvement
5. Mtx- induced pneumonitis

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# Methotrexate Lung

- Dry cough, shortness of breath, fever
- Most often seen in the first 6 months of MTX treatment
- Diffuse interstitial pattern on x-ray
  - Bronchoalveolar lavage may be needed to rule out infection
- Acute mortality = 17%; 50% to 60% recur with retreatment, which carries the same mortality
- Risk factors: older age, RA lung, prior use of DMARD, low albumin, diabetes

# Monitoring Adverse Effects of DMARDs

- Hydroxychloroquine- monitoring with annual exam for retinal toxicity
- Sulfasalazine-CBC, CMP, GI symptoms
- Methotrexate-CBC, CMP, mucositis, GI intolerance, Lung toxicity, Teratogenicity
- Leflunomide-CBC, CMP, rare cases of lung toxicity, Teratogenicity
- Biologics- as in previous slides

# Question 3

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58 years old woman with rheumatoid arthritis has been on Adalimumab (Humira) and Methotrexate for 5 years. She comes to see her PCP in November for her regular follow up. She feels good, does not have any swelling of her joints or stiffness, and does not complain of pain.

She asks for her influenza vaccine.

Which of the following is the most appropriate step in management:

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1. Administer IM influenza
2. Administer intranasal influenza
3. Do not administer influenza
4. Begin Zanamivir



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# ACR/CDC recommendations

## Live vaccine

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### **Live attenuated vaccine should be avoided:**

Pregnant women

DM

Immunosuppression/hematopoietic stem cell transplantation

Treatment with recombinant human immune mediators (specifically naming adalimumab, infliximab and etanercept)

Active leukemia, lymphoma, malignant neoplasm's affecting bone marrow or lymphatics

AIDS/HIV patients and those with CD4 lymphocyte counts  $< 200$  per  $\text{mm}^3$

High dose corticosteroids  $> 20$  mg/day for more than two weeks

# ACR/CDC recommendations

## Live vaccine

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“Rheumatologists/PCP should consider giving zoster vaccine to **all** RA patients 60 years of age and older, even if they are on MTX and low-dose prednisone “

“Until more research becomes available it is still advisable to avoid the zoster vaccine in patients actively receiving TNF inhibitors, as well as abatacept, rituximab and anakinra”

[www.rheumatology.org](http://www.rheumatology.org)

[www.cdc.gov](http://www.cdc.gov)

# Question 4

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55 years old man is in your clinic after a recent hospital discharge for heart failure exacerbation and with a new diagnosis of gout. He asks about gout treatment.

While in the hospital orthopedics was consulted, arthrocentesis was done and monosodium urate crystals were reported on the fluid analysis. He received a tapering prednisone dose.

# Labs

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Pertinent labs:

CBC normal with WBC 6.5

Creatinine 1.4

Liver function test normal

Uric acid 10

Considering this attack was his 3<sup>rd</sup> one this year, your next step in the management of this patient is:

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1. Start allopurinol
2. Start colchicine
3. Start allopurinol and colchicine
4. Start probenecid

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# Acute intermittent gout

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Initial attack is monoarticular in 85- 90 % patients.

First MTP is the most commonly affected site.

Usually presents at night with sudden onset of pain, **swelling**, warmth and erythema.

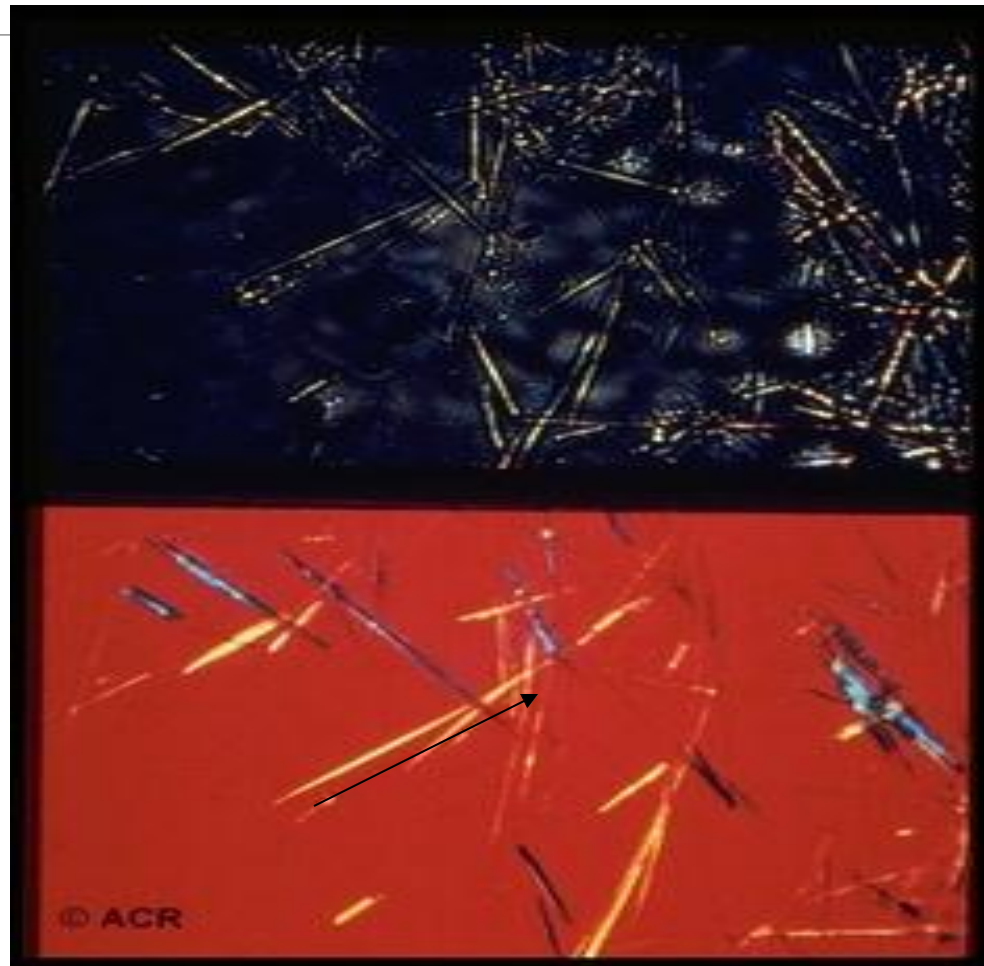
Precipitating factors- alcohol use, dietary excess, surgery, infections, diuretics



# Acute intermittent gout

## Diagnosis - synovial fluid analysis

- 1) Cell count 50- 100 k, PMNs
- 2) Intracellular, negatively birefringent, needle shaped crystals
- 3) Gram stain and culture to exclude co-existent infection



# Tophi

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Solid urate deposits

Sites- helix of the ear, heberden's nodes, fingers, olecranon bursa, Achilles tendon

Cause juxta-articular erosions with joint damage

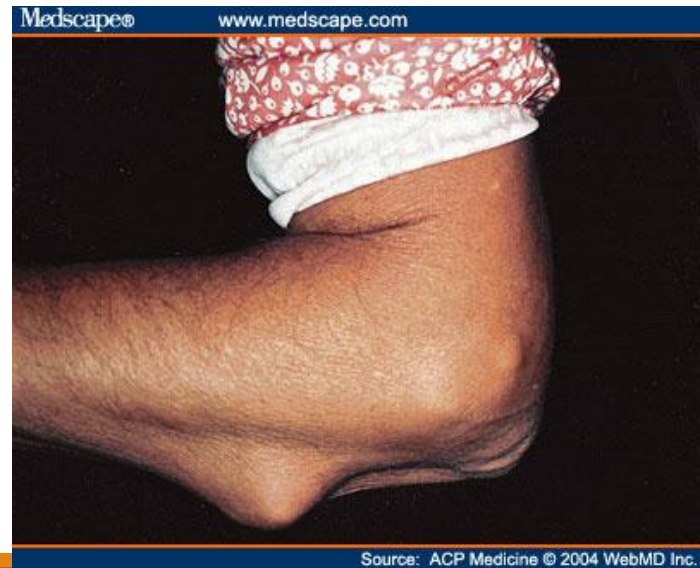


# Arthritis with nodules!

Tophaceous gout

Rheumatoid arthritis

Multicentric Reticulohistiocytosis



# Gout Management

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- Urate lowering therapy: new medications
- Goal of uric acid  $<6\text{mg/dL}$
- Review medications and diet with the patients

# References

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ACR slide collections

ACR [www.rheumatology.org](http://www.rheumatology.org)

MKSAP 16

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*Thank you*