RA Update
SCE questions

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Q1

1.A 70 year old man with RA is in pre-op clinic prior to an elective TKR in 6 weeks time. His current medication includes MTX and Etanercept. The orthopaedic FY2 doctor contacts you for advice.

You should advise the FY2 to

a)Continue both drugs

b) Stop MTX and Etanercept 14 days before surgery

c) Stop MTX and etanercept on the day of surgery

d) Stop Etanercept 14 days before surgery, continue MTX

e) Stop Etanercept on the day of surgery, continue MTX

D

BSR guidelines suggest that the decision to treat with anti-TNF agents in the peri-operative period should be balanced between the risk of infection and disease flare, most suggest that anti TNF agents should be withdrawn 3-5 half lives before the operative procedure

Biologic half lives

Biologic	Half life (days)	Washout period (eg pre surgery)
Etanercept	3	15
Adalimumab	14	70
Infliximab	8 – 9.5	40 – 47.5
Golimumab	9 - 15	45 - 75
Certolizumab pegol	14	70
Tocilizumab	8 - 14	40 - 70

Q2

2. A 45 year old woman presents with a 2 month history of joint pains and early morning stiffness. She does not smoke and takes alcohol in moderation. On examination, you find swelling and tenderness of both wrists and of index and middle finger MCPJs bilaterally. Investigations show: Hb 11.5, MCV 80, WCC 6.2, U 7, C 92, alt 25, ana neg, anca neg, RF positive. CXR N.

Which is the most appropriate initial management plan for this patient?

a) Corticosteroids

b) MTX and SAS

c) MTX, SAS and HCQ,

d) MTX, HCQ and corticosteroids

e)MTX and corticosteroids

D

Steroids are quick acting and are appropriate initial management for RA. Other DMARDs take longer to take effect. NICE CG 79 recommends combination DMARDs and short course corticosteroid

2010 Rheumatoid arthritis classification criteria: an American College of Rheumatology/European League Against Rheumatism collaborative initiative

	Score
Target population (who should be tested?): patients who	
1) have at least one joint with definite clinical synovitis (swelling)[2]	
2) with the synovitis not better explained by another disease[3]	
Classification criteria for RA (score-based algorithm: add score of categories A–D a score of ≥6/10 is needed for classification of a patient as having definite RA)[4]	
A. Joint involvement[5]	
1 large joint[6]	0
2–10 large joints	1
1–3 small joints (with or without involvement of large joints)[7]	2
4–10 small joints (with or without involvement of large joints)	3
>10 joints (at least one small joint)[7]	5
B. Serology (at least 1 test result is needed for classification)[8]	
Negative RF *and* negative ACPA	0
Low-positive RF *or* low-positive ACPA	2
High-positive RF *or* high-positive ACPA	3
C. Acute-phase reactants (at least one test result is needed for classification)[9]	
Normal CRP *and* normal ESR 0	0
Abnormal CRP *or* normal ESR 1	1
D. Duration of symptoms[10]	
<6 weeks	0
≥6 weeks	1

NICE CG 79; Management of early RA

Key priorities

- Offer combination MTX + other DMARD + short term steroid within 3/12 of onset of persistent symptoms
- If combination not appropriate fast escalation of monotherapy
- Measure CRP and DAS 28 monthly til disease controlled
- If sustained and satisfactory disease control achieved reduce drug doses to levels that still maintain disease control
- Need access to a named member of the MDT ie CNS to co-ordinate care

Q3

A 55 year smoker with active RA for 6 years, who has failed combination therapy with MTX 25mg weekly, SAS 1g bd and HCQ 200mg bd, was commenced on Etanercept 6 months ago. Whilst on Etanercept (50mg/week) and MTX 7.5mg/week, he developed an STEMI. He had thrombolytic therapy and appropriate secondary preventative measures. Since discharge he is feeling well but gets SOB on walking uphill. On examination bilateral pedal oedema (mild) is observed. A FBC, U and E, urine dip, and LFT are N.

Which of the following tests would you do next to decide whether to stop etanercept treatment?

a) Coronary angio
b) ECG
c) Echo
d) Stress echo
e) Thallium scan

C

Exertional SOB can be a symptom of heart failure. Patients with CCF on anti-TNF have a worse outcome. BSR guidelines state that anti-TNF should not be initiated in patients with NYHA grade 3 or 4 cardiac failure and should be used with caution in patients with NYHA 1 and 2. Anti-TNF should be discontinued if cardiac failure develops or worsens while on treatment. As ejection fraction can be assessed form a simple 2D echo, this is the initial Ix of choice

BSR guidelines; CI to biologics

- Infection
  - Serious active infections
  - Use with caution in: chronically infected leg ulcers, septic arthritis of a native joint in last 12 months, sepsis of a prosthetic joint in last 12 months or indefinately if the joint remains in situ, recureent chest infection, urinary catheter, bronchiectasis, hypogammaglobulinaemia
- Mycobacterial infections
  - Screen for latent TB
- Opportunistic infections
  - Food hygiene
- Hepatitis
  - Screen for risk factors and test for HBV
- HIV
  - Screen for risk factors and test for HIV

BSR guidelines; CI to biologics

- Malignancy
  - Caution should be exercise in pts with previous malignancy
  - Caution should be exercised in pre-malignant states
- Demyelination
  - TNF should not be given in those with MS
  - Caution should be exercised in other demyelinating diseases
- Cardiac failure
  - NYHA 3 and 4
- Pregnancy and breast feeding
- Interstitial lung Disease
  - monitor
- Uveitis
  - Use with caution with past history of uveitis

Q4

A 24 yr old child minder with RA for 3 years is on MTX 20mg/week and leflunomide 10mg od. She was commenced on 15mg pred od 2 weeks ago for a flare of her RA. One of the children she is looking after has developed chicken pox. She has not had chicken pox in the past, and blood tests prior to starting MTX showed she did not have IgG antibodies to varicella.

Which of the following is the correct approach for her in this situation?

a) She should stop her DMARDs if she develops chicken pox
b) She should stop her DMARDs for 3 weeks
c) She should have chicken pox vaccination
d) She should be administered varicella zoster immunoglobulin
e) She should stop her steroids and continue on DMARDs

D

Immunosuppressed patients without a history of chicken pox/zoster should receive VZIG if they have exposure to a case of chicken pox/zoster. Depending on local policy, pts may be checked for anti-herpes zoster antibodies (to check they have not had a subclinical infection) before stating VZIG. An exposure to VZV is significant if:

1. The index case has chicken pox, disseminated shingles or an exposed localised lesion eg ophthalmic shingles. If the index case is immunosuppressed then a local lesion anywhere may be significant as shedding is greater in these
2. Exposure occurs between 48hrs before onset of rash to crusting of all lesions (chicken pox) or from day of onset of rash to crusting of all lesions (shingles)
3. Contact with index case is in the same room for at least 15 minutes or direct face to face contact eg conversation for more than about 5 minutes

Q5

A 36 year old female with a 5 year history of RA on MTX 15mg/week attends for annual review. Her DAS28 is 1.95 and she has not had any articular symptoms in the last 12 months. She must travel to mid-Africa for some important business and has been advised to take yellow fever vaccine for this. She is quite keen to take the vaccine, and asks you what to do about the MTX.

How many months before the vaccination should she discontinue the MTX?

a) 2 weeks
b) 1 month
c) 2 months
d) 3 months
e) 6 months

D

BSR guidelines suggest that pts on immunosuppressives, the use of live vaccines is contra indicated unless immunosuppressives are stopped at least 3/12 beforehand. If live vaccines are necessary, allow at least 2 weeks, preferably 4 weeks, before commencing immunosuppressives. If a patient is vaccinated while taking immunosuppressive therapy, they may not mount the appropriate immune response. Consider repeating 3 months after therapy has stopped if viral titres low.

Rabies, anthrax, cholera and plague are inactive viruses

Live vaccines

- Yellow fever
  - Must not be given. Pts should be advised not to travel to countries requiring this eg mid Africa. If patient has to travel an exemption statement may be accepted but the patient will be at risk
- Polio
  - The live oral vaccine must not be given. Killed inactivated vaccine can be given but may need to be obtained from abroad so adequate notice required
- Typhoid
  - Live form should not be given. Killed vaccine is available but only 70% protective

Q6

A 63 year old woman with RA is seen for review after commencing leflunomide 20mg daily, 6 weeks ago. She previously discontinued MTX and SAS due to side effects. For the past 10 days she has noticed an increasingly itchy rash appearing over her trunk and limbs. On examination she had discrete blanching erythematous papules over her abdomen and limbs.

What is the most appropriate next step in management?

a) Stop leflunomide
b) Stop leflunomide and prescribe cholestyramine 8mg tds
c) Stop leflunomide and prescribe cholestyramine 8g tds
d) Stop leflunomide and prescribe cetirizine 10mg od
e) Stop leflunomide and prescribe prednisolone 10mg od

C

Drug reaction to leflunomide. Due to the long half life, leflunomide requires a washout with cholestyramine. The dose is 8g tds for 11 days

Q7

A 72 year old man with long standing RA is seen in clinic with weakness, fatigue, weight loss and diarrhoea. He is currently taking MTX 15mg weekly. On examination he has hepatosplenomegaly and peripheral oedema.

Investigations showed Hb 10.5, WCC 4.3, Plts 135, MCV 100, U and E N, LFTS N, urine dip protein 3+ no blood, alb 27, total protein 90 (60-84). SEP no free light chains.

What is the most likely diagnosis?

a) Amyloidosis
b) Felty's syndrome
c) MTX toxicity
d) Neuroendocrine tumour
e) Sarcoidosis

A

The patient has symptoms and signs of malabsorption, nephrotic syndrome and hepatosplenomegaly. He has raised total protein with low albumin suggesting a circulating protein. With a background of RA he is most likely to have developed reactive serum AA amyloidosis.

The quickest test to confirm your diagnosis would be either rectal or abdominal sc fat biopsy stained for congo red. An abdo sc fat biopsy is preferred as it is more straight forward. However, in some centres, a rectal biopsy may be the preferred investigation

Q8

A 43 year old woman with recent onset RhF + inflammatory arthritis was having 10-weekly im injections of sodium aurothiomalate. At week 10 she reported being 90% better. O examination, her hand joints were much less puffy than before and knee effusions had resolved. She had developed a shiny, slightly scaly, erythematous plaque over the abdomen and two smaller patches on her limbs. Her crp had fallen from 56 to 4.

What is the most appropriate next step in her management?

a) Continue sodium aurothiomalate and seek a dermatology opinion
b) Continue sodium aurothiomalate and treat with topical hydrocortisone
c) Reduce sodium aurothiomalate to 25mg per week
d) Stop sodium aurothiomalate
e) Stop sodium aurothiomalate until the rash has settled and then re-introduce

D

- Side effects of gold
  - Dermatitis
  - Pruritis
  - Stomatitis
  - Nitroid reactions when combined with ACE inhibitors
  - Blood disorders
  - Ulcerative enterocolitis
  - Immune complex nephritis
  - Irreversible pigmentation in sun-exposed areas

Q9

A 61 year old woman with long standing RA presented with persistent leg ulcers. She was taking MTX. Infliximab had been stopped 2 months previously following the appearance of the leg ulcers. On examination, there were bilateral shallow ulcers on the medial malleoli. Investigations showed, Hb 9.8, MVC 89, MCHC 35, WCC 4.8, plt 180, ESR 60, IgG23 (6-13), IgA 1.2 (0.8 – 3), IgM 2.3 (0.4 – 2.5), RF 48

What is the most likely diagnosis?

a) Cryoglobulinaemia
b) Delayed drug reaction to infliximab
c) Felty's syndrome
d) Leucocytoclastic vasculitis
e) Rheumatoid vasculitis

C

Q10

A 42 yr old woman with RA presented with a 3 day history of malaise and nausea. Because of progressive disease MTX had been changed to leflunomide 20mg daily 2 weeks previously. Her other medication was DHC and ibuprofen. On examination she had right hypochondrial tenderness. Investigations showed: total bili 27, alt 3276, alp 367, ggt 970. Leflunomide was discontinued. What is the most appropriate next step in management?

a) acetylcysteine
b) cholestyramine
c) high dose prednisolone
d) iv ganciclovir
e)no additional treatment

B

Q11

A 32 year old woman with longstanding RA had failed to respond to treatment with MTX, lef, etanercept and adalimumab . She had heard that a new antirheumatic agent, rituximab, was available for the treatment of RA and expressed a wish to try it.

What is the most appropriate way to describe the nature of rituximab?

a) Antimetabolite
b) Chimeric monoclonal antibody
c) Humanised monoclonal antibody
d) Recombinant cytokine
e) Recombinant human receptor fusion protein

B

Structure of biologic drugs

Biologic	Structure
Etanercept	Soluble fusion TNF receptor, fully human
Adalimumab	Monoclonal antibody to TNF, recombinant human
Infliximab	Monoclonal antibody to TNF, mouse and human chimera
Golimumab	Monoclonal antibody to TNF, recombinant human
Certolizumab pegol	PEGylated antibody fragment to TNF, recombinant and humanised
Tocilizumab	Monoclonal antibody to IL 6 receptor, recombinant human

Q12

A 36 yr old woman with juvenile onset RA presented with a 1 week history of weakness of her R wrist. She had recently stopped taking her DMARDs in order to start a family. On examination she had marked synovitis around her R elbow and was unable to dorsiflex her wrist or extend her fingers, but could extend her thumb. Muscle power in her upper arm and wrist flexors, reflexes and sensation were N.

What is the most likely diagnosis?

a) C7 radiculopathy
b) Cubital tunnel syndrome
c) Guyons canal syndrome
d) Posterior interosseous neuropathy
e) Radial nerve entrapment

D

- **Cubital tunnel syndrome** occurs when the ulnar nerve is obstructed during its path along the cubital tunnel, the outer edge of the elbow
- **Guyon's canal syndrome**, sometimes referred to as **Handlebar palsy**, is caused by entrapment of the ulnar nerve in the Guyon canal as it passes through the wrist. Symptoms usually begin with a feeling of pins and needles in the ring and little fingers before progressing to a loss of sensation and/or impaired motor function of the intrinsic muscles of the hand which are innervated by the ulnar nerve. Guyon's canal syndrome is commonly seen in regular cyclists due to prolonged pressure of the Guyon canal against bicycle handlebars.

- Posterior interosseous neuropathy is purely a motor syndrome resulting in finger drop, and radial wrist deviation on extension.
- **C7 radiculopathy** causes pain and/or weakness from the neck to the hand and can include the triceps (the muscles on the back of the upper arms) and the middle finger.

Q13

A 26 year old woman attended the early arthritis clinic with a 3 month history of an inflammatory polyarthritis affecting her hands and feet. Investigations: Hb 125, WCC 7.3, plt 350, ESR 40. X rays of hands and feet; periarticular osteopenia.

What investigation is most likely to distinguish between persistent and self-limiting arthritis?

a) Anti CCP
b) Antinuclear antibodies
c) IgA RhF
d) IgG RhF
e) IgM RhF

A

Q14

A 45 yr old woman with RA presented with a 2 week history of mild discomfort in the L eye. On examination there was a localised area of redness involving the temporal bulbar conjunctiva.

What is the most likely diagnosis?

a) Conjunctivitis
b) Episcleritis
c) Iritis
d) Keratoconjunctivitis sicca
e) Scleromalacia

B

Q15

A 50 year old man with RA presented with SOB of recent onset and a dry cough. He had recently started treatment with MTX and SAS. He was a non smoker. He was treated with amoxicillin and clarithromycin but had not improved after a 1 week course. On examination he was tachypnoeic and his temp was 38.3. Investigations: hb 146, WCC 16.1, neuts 12, sputum no growth, blood cultures no growth, CXR bilateral interstitial infiltrates.

What is the most likely diagnosis?

a) Acute RDS
b) Cardiac failure
c) MTX pneumonitis
d) Pneumococcal pneumonia
e) PE

C

Q16

A 46 yr old woman with RA presented 4 weeks after starting SAS. She had developed a widespread itchy rash and had been feeling feverish and unwell. On examination, temp 38.6, bp 90/50. There was generalised lymphadenopathy, she had a widespread erythematous blanching macular rash. Her MCPJs were mildly swollen. Investigations: Hb 116, WCC 5.5, neuts 1.4 (1.5 – 7), eos 3.2 (0.04 – 0.4), plt 157, C 120, bili 19, ast 300, alp 122, crp 118, blood film atypical lymphocytes

What is the most likely diagnosis?

a) Churg strauss syndrome
b) Drug rash with eosinophilia and systemic symptoms (DRESS)
c) EBV infection
d) Haemophagocytic syndrome
e) lymphoma

B

- **DRESS syndrome** stands for *Drug Reaction* (or Rash) with *Eosinophilia and Systemic Symptoms*. It is a syndrome, caused by exposure to certain medications, that may cause a rash, fever, inflammation of internal organs, lymphadenopathy, and characteristic hematologic abnormalities such as eosinophilia, thrombocytopenia, and atypical lymphocytosis. The syndrome carries about a 10% mortality.
- The symptoms of DRESS syndrome usually begin several weeks after exposure to the offending drug
- Treatment consists of stopping the offending medication and providing supportive care. Systemic steroids are commonly used as well; however, there are no controlled clinical trials to assess the efficacy of this treatment.