• Congratulations!
• Tips for passing the clinical exam
  • Practice, practice, practice
  • Get long cases down-pat
  • Focus on conditions likely to appear in the exam
  • Find words and phrases that work for you
  • Keep going
  • Don’t lose your nerve on the day!

Rheumatology Long Cases

• Certain cases more likely to present:
  • RA
  • SLE
  • Sjogrens
  • Vasculitis
  • Scleroderma
  • Ankylosing Spondylitis
  • Psoriatic Arthritis
• Than others:
  • Acute Gout
  • Septic Arthritis
  • Reactive Arthritis

Rheumatoid Arthritis

• History
  • Age of diagnosis
  • Distribution of joints involved
  • “symmetrical polyarthritis involving the small joints”
  • Extra-articular manifestations
  • Skin: ulcers/rheumatoid nodules
  • Lungs: pulmonary fibrosis/effusions
  • C.N.S: Peripheral neuropathies, Mononeuritis multiplex
  • Anemia: chronic disease/Fe deficient/folate deficiency secondary to MTX use/Feltys Syndrome
  • Cardio: Pericarditis/effusions/valvular disease/IHD
  • Renal: infection/amyloid/NSAIDS
• Treatment History
• Complications of treatment

Rheumatoid Arthritis

• Examination:
• End of the bed-o-gram:
  • Cushioning
  • Gross deformities of the hands/feet
  • Functional aids by the bedside
  • C-spine
  • Elbows-rheumatoid nodules>>>DIP usually spared
  • Hips/Knees/Ankles/Feet
  • Face: ?Evidence of sicca syndrome; conjunctival pallor
  • Cardiopulmonary Exam
  • Abdominal Exam
• You will fail if you do not include a functional examination: undoing jars/buttons/grip strength. Combine this with a functional history>> what does the patient enjoy doing?
Rheumatoid Arthritis

- Diagnostic Criteria (4 out of 7)
  - Morning stiffness >1h >6 weeks
  - Arthritis of 3 or more areas>6 weeks
  - Arthritis of hand joints excluding DIP >6 weeks
  - Symmetrical arthritis >6 weeks
  - Rheumatoid nodules
  - Rheumatoid factor + (remember CCP is more specific-associated with more severe disease activity and erosive disease)
  - Xray changes consistent with RA
    - Soft tissue swelling
    - Joint space narrowing
    - Juxta-articular osteoporosis
    - Joint erosions

- DDx for deforming symmetrical polyarthropathy
  - RA
  - Psoriatic arthropathy
  - OA
  - *Beware polyarticular gout*

- Comment on disease activity
  - Difference between chronic changes vs active synovitis is "hot joints"
  - Other measure of activity ESR/CRP

- Treatment:

SLE

- History:
  - General symptoms
  - Arthralgia/arthritis/myalgias
  - Rash/alopecia/ulcers
  - Delerium/dementia/seizures/visual disturbance
  - Haematuria/odema/renal failure
  - Pleursisy
  - Pericarditis/myocarditis/valve lesions/ IHD
  - Lymphadenopathy/anaemia/cytopenia/CLOTS
  - APL/recurrent miscarriages

- Diagnostic Criteria (must have 4 or more)
  - Malar rash
  - Discoid rash
  - Photosensitive rash
  - Oral ulcers
  - Arthritis
  - Serositis
  - Neurological disorder (cytopenias)
  - Hematological disorder (dsDNA, antiSm, APL)
  - Immunological disorder (dsDNA, antiSm, APL)
  - ANA+

- Exam
  - HANDS>HEAD>TOE
  - Cushinoid?
  - Signs of proximal myopathy?
  - Jaccouds joints*
  - Examine skin/mouth/face/mouth carefully
  - Cardiopulmonary
  - Be sure to ask for UA and BP chart

- Investigations
  - ANA/ ENA (antiSm very sensitiv)
  - dsDNA correlates with disease activity
  - AntiSm of chronic disease
  - ESR/CRP
  - Lupus anticoagulant/ APL (prolonged aPTT not correcting with mixing)
  - Low C3 C4

- Treatment:
SLE

- Treatment
  - Hydroxychloroquine for mild skin/joint disease
  - Lupus nephritis needs to be treated aggressively:
    - Cyclophosphamide induction
    - MMF/AZA maintenance
  - Some patients will require long term steroids
- Issues
  - Is disease active?
  - Complications of long term steroids: infection/cushings/DM/OP
  - Burden of chronic disease
  - “Premature CVD”

Ankylosing Spondylitis

- The seronegative arthropathies “PEAR” ie RF:
  - Psoriatic
  - Enteropathic
  - Ankylosing Spondylitis
  - Reactive
- A chronic inflammatory disease of the axial skeleton. Usually presents as back pain in young adults +/- restricted movements.
- Mostly affects spine and SI joints. May eventually cause fusion of the spine

- Exam:
  - Observe pt
  - Palpate down entire spine
  - Measure Finger to floor distance
  - Assess back extension, lateral flexion and rotation
  - Modified Schober’s test
  - Occiput to wall distance
  - SI joint
  - Check Achilles tendon and for plantar fasciitis

Ankylosing Spondylitis

- Extra-articular manifestations
  - Eyes: uveitis/iritis
  - Skin: psoriasis/erythema nodosum/pyoderma gangrenosum
  - Resp: apical fibrosis
  - Cardio: AR, MVP, conduction delays

- Investigations:
  - Very early disease may only be detected on MRI spine
  - Xrays SI joints and spine
  - HLA B27 (85%) also over represented in other seronegative arthropathies
Scleroderma

- Systemic autoimmune disease characterised by hardening of the skin
- History:
  - Skin: tightening/raynauds/sclerodactyly
  - Joints: RA distribution, CTS
  - GIT: Dysphagia/GORD/malabsorbtion diarrhoea
  - Renal: HTN/CKD
  - Cardio: Pericarditis/cardiomyopathy

Scleroderma Spectrum of disease:
- Limited:
  - Skin to the elbows BUT may involve face +/- oesophagus
  - No involvement chest/abdo/internal organs
  - Anti-centromere Ab+ in 70%
  - CREST:
    - Calcinosis
    - Raynauds
    - Oesophageal involvement
    - Sclerodactyly
    - Telangectasia

- Diffuse disease:
  - More associated with pulmonary fibrosis
  - Anti-Scl+ Ab

Exam
- HANDS
- Head: Alopecia/ Loss of wrinkles (look young!)/ Bird like face
- Chest: Roman breast plate
- CVS: CHECK BP/Pericarditis/RHF
- Resp: ILD
- GIT: Jaundice
- Limbs: Vasculitis
- Ask for UA to look for proteinuria

Scleroderma Ix:
- ESR
- Hb
- RF+ 25% ANA+ Anti-Scl70 Anticentromere

Scleroderma Treatment
- Avoid vasospasm
  - Smoking cessation/ not for b-blockers/ keep warm
  - Nifedipine 1st line for Raynauds
- PPI for GORD
- D-Penicillamine
  - Immunosuppressant
  - Interferes with collagen crosslinking
  - May help skin disease- needs monthly monitoring
- Cyclophosphamide if lung involved
- Bosantan approved for PHTN
- Scleroderma crisis/HTN
  - ACEI class of choice even in presence of renal impairment
- Major causes of mortality:
  - 65% Pulmonary Fibrosis/ PHTN/RHF
  - Renal crisis
Rheumatology Long Cases

- These are systemic diseases - need to cover all systems in history and exam
- Think about the burden of chronic disease in your patients and how the diseases have affected their life/work/fertility
- Functional history extremely important - how does the disease impact on ADLs and other interests
- Don't forget medication side effects especially steroids

The HIV Long Case

- 2013 is very different to 1985
- We know the transmission risks
- Over 20 ART licensed for use
- Most newly diagnosed patients have some idea they were at risk
- In general patients who are treated do very well - life expectancy around 40y from diagnosis

- Chaotic lifestyles, psychiatric illness and/or D+A addiction impact on a patient's ability to take daily ART

HIV

- History
  - Year of diagnosis - earlier increased risk of drug resistance
  - Mode of transmission
    - MSM
    - IDU* risk of HCV
    - Blood products
    - Partners from high risk areas* esp females
    - Vertical transmission** children coming of age
  - Presenting Illness
    - OI? Indicates lower nadir CD4 count
    - Seroconversion illness
    - Routine screening likely higher nadir CD4 count
  - ***Recent CD4 Count and Viral Load***
  - History of opportunistic infections
  - Co-infection with HBV/HCV

- Lifecycle and Drug Targets

- Common OIs
  - KS Any CD4
  - TB Any CD4
  - PJP CD4<200
  - Oesophageal Candidiasis CD4<100
  - Cryptosporidiosis CD4<100
  - Toxoplasmosis CD4<100
  - Cryptococcis CD4<50
  - MAC CD4<50
  - CMV<50

- Co-infection inhibitors
- Reverse transcriptase inhibitors
- Integrase inhibitors
- Mammalian Target of Rapamycin inhibitors
- Fusion inhibitors
- CCR5 antagonists

HIV
**HIV**

- **Treatment History**
  - When was treatment commenced? And why?
  - What regimes has the patient been on
    - If the patient is on T20, Maraviroc (CCR5) or 5-6 drugs indicates a salvage regime
  - Why were they changed
    - Adverse events
    - Viral escape

- **Indications for treatment in 2013**
  - Symptomatic HIV infections with any CD4 count and viral load
    - opportunistic infections, malignancy, CNS infections, thrombocytopenia
  - CD4< 350 even if asymptomatic
  - Chronic HBV requiring treatment
  - HIV Nephropathy
  - Pregnancy
  - High cardiovascular risk CD4 count 350-500
  - CD4 350-500 with rapid rate of CD4 decline
  - VL>10000 consider therapy
  - Once ART is commenced it needs to be taken with high compliance and lifelong
  - Emerging data that morbidity and mortality increase with planned or unplanned treatment interruptions (SMART Study)

- **First Line Therapy:**
  - 2 NRTIs: emtricitabine+tenofovir (Truvada)
  - PLUS
  - A NNRTI: efavirenz (not for use in pregnancy), nevirapine
  - OR
  - Protease Inhibitor: lopinavir+ritonavir
  - Preferred regimens for antiretroviral (ARV)-naïve patients:
    - efavirenz/tenofovir/emtricitabine (EFV/TDF/FTC)
    - ronnavir-boosted atazanavir + tenofovir/emtricitabine (ATV/r + TDF/FTC)
    - ronnavir-boosted darunavir + tenofovir/emtricitabine (DRV/r + TDF/FTC)
    - raltegravir (integrase inhibitor) + tenofovir/emtricitabine (RAL + TDF/FTC)

- **Ritonavir boosting**
  - Protease Inhibitor
  - CYP450 Inhibitor
  - We exploit this feature by prescribing a small dose of ritonavir to inhibit the metabolism of other PI
  - This has allowed for 1 or 2x per day dosing
  - **BEWARE: Other Drug Interactions**
    - eg fluticasone, warfarin, amioderone...

- **HIV/HCV co-infection**
  - ART has no impact on HCV
  - Patients should be assessed for IFN/RBV

- **HIV/HBV co-infection**
  - Lamivudine, emtricitabine, and tenofovir have actions against both HIV and HBV
  - In HIV/HBV co-infected patients with HBV+DNA need to test for HBV Lamivudine resistance
  - LAM sensitive: ART including Tenovir+LAM OR emtricitabine
  - LAM resistant: ART including tenofavir +/- emtricitabine

- **Adverse Effects**
  - Abacavir: hypersensitivity reaction associated with HLAB57*01
  - Didanosine (ddI): Pancreatitis, Diarrhoea, Nausea, Peripheral Neuropathy
  - Emtricitabine (FTC) Skin discolouration of palms and soles, exacerbation of HBV
  - Lamivudine (3TC) Anaemia, Neutropenia, Pancreatitis, Exacerbation HBV
  - Tenofavir: Hypophosphatemia, renal impairment, exacerbation HBV
HIV

- Adverse Effects
  - Stavudine: neuropathy, pancreatitis
  - Zidovudine (ZDV) anaemia, neutropenia, myalgia, myopathy
  - Efavirenz rash, raised LFT, neuropsych reactions, contraindicated in pregnancy
  - Nevirapine: Hepatitis esp in F with CD4<250 or men >400
  - Protease Inhibitors: lipodystrophy, hyperglycemia, hyperlipidemia,
  - Atazanavir: hyperbilirubinemia/jaundice, long PR
  - Indinavir: nephrolithiasis, nephritis
  - Raltegravir: raised CK and LFT

HIV Management

- CD4 count and viral load monitoring
- Monitoring ART side effects
- Treatment of OI
- Test and treat for other STI
- Treatment of co-infection
- Monitoring and treatment of long term side effects:
  - Lipodystrophy
  - CVD
  - HAND
  - Osteoporosis
  - CKD
  - Surveillance for malignancies: lymphomas, KS, skin cancers, anal cancers

HIV

- Other Issues
  - Stigma/discrimination
  - Disclosure
  - Discordant couples
  - Safe sex practice
  - Vertical transmission
  - Contact tracing
  - Planning for travel
  - Access issues for patients without medicare

Thank You and Good Luck!