Long Case

Contents

DIABETES MELLITUS

MD discussion themes

1. **Health care failures –** non compliance, poor control, system not being able to cater the patients need / unmet needs
2. **control -** Recent deterioration
3. **Hypoglycaemia**
4. **Non DM neuropathy**
    a. Paraneoplastic – small fibre (lymphoma)
    b. Paraproteinaemic – small fibre
    c. CIDP
5. **Non DM nephropathy** / edema in DM
    a. RPGN AKI
    b. Paraneoplastic MGN
6. **Proximal muscle weakness (* assess disability – sit, stand, walk, squat, toilet)**
    a. DM amyotrophy (pain, LL, Unilateral / asymmetric, wasting, low reflexes?)
    b. Cushing
    c. Statin
    d. Hypothyroid
    e. Osteomalacia
    f. Polymyositis
    g. Paraneoplastic (LEMS, DMitis, other)
7. **Liver disease**
    a. NASH
    b. AIH with T1DM
    c. Heridetary Haemochromatosis
    d. Unrelated – alcohol, viral hepatitis, CAM
8. **Autoimmune Polyglandular Xd (APG) – Addison, hypothyroidism, gonadal failure**
9. **Diagnostic doubt on type of DM – T1, T2, MODY, other?**
    a. Familial
    b. Pancreatitis
    c. Cushing / exogenous steroids
    d. AI PG Xd
10. **OHG failures and CIn –**
11. **Impotence in DM**
    a. Vasculopathy
    b. Neuropathy
    c. Anti HTN

d. Smoking
e. CKD
f. CLCD (NASH, HH, alcoholic chronic pancreatitis and cirrhosis)
g. Depression
h. POEMS
i. Myotonic dystrophy

12.LoW in DM

a. Poor DM control
b. Thyrotoxicosis – can cause DM too
c. Pancreatitis
d. Celiac
e. Autonomic (ANS) neuropathy and SIBO (Small intestinal bacterial overgrowth)
f. Unrelated – cancer
g. Metformin, GLP-1RA

13.Diarrhea in DM

a. Autonomic neuropathy
b. Metformin
c. Pancreatitis
d. SIBO
e. Celiac
f. Gut edema – CCF,

14.Psychosis and diabetes

a. Cushing
b. Glucagonoma (dementia)!
c. T1DM with autoimmune associations (pernicious dementia / SREAT)

15.Anemia in DM

a. CKD
b. Nutritional
c. Malabsorption – see diarrhea
d. Metformin

16. AKI / CKD

a. DM nephropathy
b. RAS
c. RVT (hypoalbuminaemia)

17. DM CKD Mgt issues

a. Blood transfusions, pregnancies – allosensitization

b. HF, CKD CA dye – push to ESKD

18. SOB in DM

a. HF
b. CKD
c. Anemia
d. PE – hypoproteinaemia

DIABETES SUMMARY
Dx when and how
Aetiology
T1 – young, associated AID
T2 –
Other – MODY (< 25y, FHx+, AD), LADA (needs insulin within 6m, Ab +), APG
Hx of GDM

Current therapy and control
Insulin / OHG
FBS / A1c / SMBG

Complications
1. **MACRO :** IHD, stroke, PVD
2. **MICRO :** DR (laser, VEGF), neuro (SMPN, ED, Post Hypotension, post prandial dyspepsia?, early satiety, gustatory sweating, BED SIDE TESTS for ANS: post BP, valsalva BP, hand grip and BP. Constipation – diarrhea alteration in DM neuro can be due to rectal dilatation), nephro
3. **INFECTIONS :** Rec UTI, pneumonia, boils, VVC / balanitis, nail fungus, foot ulcers, Sx, amputations
4. **GLYCEMIC :** Hyperglycemic / hypoglycemic emergencies
5. **FOOT**

Insulin
Injection – who, how, where, storing, dose, site pain, compliance, hypo, weight gain, needle disposal, coping with job / schooling, self guided dose adjustments (meals, exercise)

Hypoglycemia
Dx
Triad – symptoms, CBS, improves with food
Severity – major Vs minor
Frequency
Unawareness / nocturnal

Aetiology – drug excess, diet, physical activity, CKD, CLCD, Addison, gastroparesis

Complications and risks-
Residual deficits after recovery
Falls, injury and accident risks, driving, machine etc

Mgt –

Who is at home
Glucometer at home
Nearest hospital, means of transport and duration
Pts knowledge on managing hypo at home
Carrying a sweet during travel

Bed side tests for ANS dysfunction

1. Postural hypotension
2. Valsalva
3. Handgrip and BP
4. ???

Formal evaluation of ANS neuropathy
Radiolabeled gastric emptying

Dx small fibre neuropathy – DM / paraneo / paraprot
Skin Bx

Const diarrhea alternation oin DM – rectal dilatation

Hypogonadism in APG

General Examination

Lying down

CVS - BP lying, Pulse tree, bruits, Precordium
Abdomen
Genitals
RS anterior
LL
Thigh Wasting
Skin – dermopathy
Foot – edema, arches, Charcot, clawing, dry, hair, nail dystrophy, toe web fungi, callosities, ulcers, neuropathy, pulses
Tendon xanthoma
LL neurology

Sit up

Xantholesma, arcus, cataract, pallor, Jaudice
Goiter, neck scars (HD lines)
Hands – cheiroarthropathy
BP erect

Lung bases
Back – spinal deformities, fungal rashes
CN
fundus
UL – prox myopathy
Gait, rhomberg

Syndromic features
Cushing –
MD – percussion myotonia, frontal balding, cataract, ptosis
MODY ?

CHRONIC KIDNEY DISEASE

1. Rapidly progressive renal failure
    a. RPGN
    b. RAS
    c. Rapidly worsening diabetic nephropathy – proliferative DR is a predictor
    d. Recurrent sepsis / UTI
    e. LUTS
2. Non resolving dyspnea despite hemodialysis
    a. Pulmonary hemorrhage
    b. Pulmonary infection
    c. Anemia
    d. Musculoskeletal - myopathy
3. Need for HD with a mildly elevated creatinine (< 500 micmol/L)
    a. LV systolic failure
    b. Flash pulmonary edema – RAS, Diastolic failure
4. Anemia in CKD
    a. Epo
    b. Nutritional / malabsorption
    c. GI bleeding – uremic / NSAID
    d. Epo PRA
    e. Hemolysis
    f. Hypothyroidism
5. Problems with cardiac failure
    a. Cardio renal Xd
    b. Angiogram pushes to ESKD
    c. Unfit for KT
    d. AVF ppt high output HF
    e. May not tolerate HD ultrafiltrate

Aetiology – DM, HTN, BPH, chr PN, CA-Cervix, myeloma, amyloid, CKDu
Stage
Complications
    Fluid overload
Uremia
Anemia – epo, Fe, blood transfusions, blood group, diet
    Ca
    Acidosis
Plan
    HD – access, where, finances

KT – blood group, donor, match finances, CIn (cancer, poor compliance, CVD)

Acute kidney injury

Pre renal

Hypotension, RAS, sepsis, hypovol (CCF, CLCD), NSAIDs

Renal

1. **GN –**
    a. **pauci immune :** ANCA +/-
    b. **Immune complex : (SAPS Cry Hep) –** SLE, IgAN, PSGN, SABE, Cryo, hep B,C
    c. **GBM –**
    d. **Monoclonal**
    e. **C3 GN**
2. **TIN (AIDS) –**Autoimmune, Infections, drugs, Snake venom
3. **ATN (TSH) –** hypotension, sepsis, toxin (Abtcs, osmotic, heme, Mgb)
4. **Vascular (PETT)–**PAN, emboli, TMA, thrombosis (RAT, RVT)

Post renal – obstruction – CA prostate / CA-Cx / RPF, stones

Ix AKI

1. UFR, Phase contrast, UPE, urine culture
2. Cr, K, pH
3. ESR, CRP, FBC, LFT, ECG
4. ANA, ANCA, ASOT, C3 & C4, cryo
5. Renal Bx with immunofluorescence – CIn, alternatives (skin, fat pad)

SYSTEMIC LUPUS ERYTHEMATOSUS

MD themes

1. **Diagnosis, overlap, extent, disease activity**
2. **Flare Vs infection**
    a. CRP, procalcitonin
    b. Microbiology studies
    c. C3, C4, dsDNA titre
3. **Differential Diagnosis for organ involvement**
    a. Fits – cerebral lupus, meningoencephalitis, CVT, TTP, PRES, uremia
    b. AKI – LN, TTP, sepsis, drugs?
    c. Hematology – lupus marrow, drugs (AZT, MMF), infection, HLH, TTP
4. **Thrombotic events**
    a. De novo Thrombosis
        i. Vasculitis
        ii. APLS
        iii. atherosclerosis
    b. Embolism
        i. Atheroembolism
        ii. Thromboembolism
        iii. Libman Sack endocarditis with embolism
    c. TTP, CAPS
5. **Social impact**
    a. Cosmesis
    b. Education, job
    c. Marriage – contraception (barrier, POP, depot), pregnancy complications
    d. Finance, F/U, pt awareness, compliance
6. **Male SLE**
    a. ? Klinifelter

Essential summary

Dx - Sy, Ix, Rx
Consider DDx for the P/C

Complications
Individual organ involvement
Skin, MM, hair
Joints, assess disability
Renal – edema, HD, Cr, HTN
CNS – fits, weakness, psychosis, depression, cognitive impairment
Hemat – J, anemia, plt, bleeding, DVT, CVT, MC
Serositis

Course of illness, current disease activity

Drugs and side effects
Steroids
AZT

MMF
CPP

CUSHING'S DISEASE – ITSELF IS AN MD TOPIC!

Establish Dx

Common presentation - Weight gain, DM, HTN

Key Fx – prox myopathy, thick purple striae, thin skin with easy bruising, facial plethora, premature OP

Other Fx – psychosis, cataract, acne, round face, DC and SC fat pads, central obesity, PUD, amenorrhea, fungal infections

Find the etiology

Exogenous – Glcc, OTC, CAM, topical, inhaled, supplements

ACTH dependent – pigmentation (headache, VF defects unlikely)

Ectopic ACTH –

lung CA - Sy, LoW, hypokalaemic effects, short Hx and rapid progression, lack other classical Fx of Cushing
Carcinoid – flushing, diarrhea
Pheo – episodes of palpitation, sweating, headache
MTC – neck lumps, FHx of MEN2 (neck Sx, renal calculi, brain Sx, Abd Sx)

Adrenal – [no clinical Fx to support]

Find complications

1. Poorly controlled DM
2. Poorly controlled HTN
3. ACS
4. OP #
5. DVT/PE
6. Serious infections
7. PUD
8. Fungal infections (hands, toes, trunk)
9. Cataract
10. Psychosis

So far Ix

ODST, 24hUCE, LNSC – ASK about OCP, AED, night shifts
ACTH
MRI pit, CECT NCAP, IPSS
DEXA scan

So far Rx

Sx plans
Ketoconazole - hepatotoxic Fx, alcohol use
Steroid history

Discussion

Evaluation

Screening – 2 of ODST, 24hUCE, LNSC (LDDST)
ACTH guided – abd imaging / MRI pit + HDDST (or CRH) IPSS sos

Rx
Definitive – Sx
Until such time
- Control DM, HTN, PUD, OP medically
- Cortisol reduction if above are not controlled with medical measures alone – Keto, metyrapone
- Emergency – etomidate in ICU

Post op
- HC replacement
- Periodic ODST montiroing for recurrence
- CVDr Mgt

Causes of proximal myopathy in Cushing – Cushing, hypoK, DM amyotrophy (asym), osteomalacia, hypoth, statin

Steroid Hx
Starting dose
Current dose
SE – weight gain, acne, PUD, DM, HTN, cataract, OP (DEXA), AVN, myopathy, bruising
Compliance, awareness, sick day rules

YOUNG HYPERTENSION
Diagnosis

Aetiology
- Kidney disease
  - Proteinuria, hematuria, rec UTI, LUTS, RAS bruit (bruits elsewhere), PAN Hx (vasculitic rash, livedo, testicular pain, MnM) CTD Fx (SLE Fx – hair loss, alopecia, rash, oral ulcers), Hx of AKI / HD, FHx of KD (PCKD)
- Vascular

Bruits, RR / RF delay
RAS – flash pul edema,
Vasculitis – takaysu, PAN

Endocrine

Conn – Na/K – Sy of hypoK: myopathy, polyuria
Cushing – **prox myopathy, easy bruising, thin skin, striae, supraclavicular fat pad, premature OP and HTN**, weight gain, recent DM,
Pheo – triad : sweating, headache, palpitations. Postural hypotension
Thyroid
Acro
hyperPTH
Liddle, Gordon, SAME, GRA – young HTN with young stroke in the family

complications

HF – SOB
Renal – edema
Eye
Brain – strokes
Emergencies :

Drug side effects

Ex
BP, bruits, renal, RF delay
CKD – pallor, edema, ballotable masses
Endo

Goiter
Cushing Fx
Acro Fx, VF
Aldo, - prox myopathy
pheo – no Fx

Vascular - bruits
LVH, HTN retinopathy,

YOUNG MI

FH – FHx of young ASCVD, death, cholesterol
Vasculitis
Thrombophilic state

Hyperviscosity
APLS

Embolic – from endocarditis
Coronary artery anomalies

Epilepsy

FHx

Consanguinity

Birth injury

Childhood CNS infections

School performance

Onset of epilepsy age

Semiology, change in semiology

Pre, intra, post

* aura doesn't give time to react. Focal onset with secondary generalization does.

Ix – EEG, video EEG, MRI

Rx – drugs, SE, Sx, ketone diet and response

CAM, religious, debts

Complications

Stigma

Cognitive decline

Status / ICU

Stroke

Dx	mimics – hypoGlc, Todd, demyelination, mass (tumor, infection) infarct, ICH (infarct stuttering onset with evolving deficit. ICH – static deficit, peak at the onset and remains static)
Aetiology	ASCVD Embolism – AF, carotid, cardiac source, PFO Thrombophilia Vasculopathy / vasculitis
Complications	Disability Bed sores Pneumonia DVT/PE Catheter UTI

Depression

What has been done
- rtPA, aspirin, statin
- thrombectomy
- TTE, TOE, carotid Doppler, Lipids, thrombophilia screen, vasculitis screen
- Physiotherapy
- OT
- Speech Therapy

What can be done
- Rehab
- Awareness, expectations, prosthesis

Vasculitis

Dx Constitutional symptoms, rash PN/MnM/ GN / lung involvement

DDx: CHINA (CTD – SLE. SSCl, PM, SjS, MCTD, APLS, Infection-IE, TB, VDRL), Neo (lymphoma, myxoma), AID (sarcoid, amyloid, IgG4), Drugs

Aetiology
- Iry: ANCA – WG (ENT, lung), CSS (asthma, PN), MPA
  IC mediated – Cryo, IgAN
- IIry: CHINA-D

Complications
- Organ function
- Drug SE

What has been done
- Biopsies
- Glcc
- CPM
- MMF, AZT
- Biologics,
- Drug toxicities

What can be done
- Further drugs
- Rehab

Questions

How to do cryoglobulin test

How to ask a patient whether DLCO was done

Tablet properties for
MTX
AZT
MMF
CPM
CSP
SSZ – large yellow

Thrombosis

Atherosclerosis – DM, HTN, DL, smoking / substance, FHx

Embolism

Thrombophilia

- Too much cells - PRV
- Too much procaogulants
- Too little anticoagulants
- Too much proteins – MM, WM

Vasculitis – primary, CHINAD

Vasospasms – trauma, takotsubo, migraine

Impotence

Morning erections preserved in performance aniety
Low libido and shaving frequency suggest endocrine

- Headache, VF defects, HH, sarcoid, Sheehan Hx – hypopituitarism
- Testicular trauma, Sx, torsions, orchitis, mumps, syndromic (Klinefelter)

Normal libido and shaving indicates local cause

- DM, ANS neuropathy
- Smoking, alcohol, heroin, cocaine, amphetamine
- PVD
- Drugs – **BB, HCT, spironolactone, CCB** (N,V), TCADs, SSRIs

Options for a hypertensive with ED
ARB, ACEI, CCB (D, A better than N, V), alfa blockers
ARBs may actually improve ED

Cirrhosis

Dx

Edema, ascites, Jaundice, UGI Bleeding

Aetiology

Alcohol
NASH
CAM
Viral B, C
AIH progressing to CLCD (remitting relapsing hepatitis, other AI Fx. Associations with SLE, Celiac)
HH (juvenile HH - young female, CCF, hypogonadism precedes cirrhosis)
WD – FHx of neuropsychiatric Fx
A1ATD – FHx of lung disease

Complications

Variceal bleeding
Ascites
Jaundice
Hep enc
SBPm HRS

Anemia in CLCD

1. Variceal / PHTG bleeding
2. Dietary deficiency
3. Malabsorption (associated celiac, lupus gut etc)
4. Hypersplenism
5. Secondary MDS

Mgt

Hep encephalopathy

1. Correct reversible ppt (UGIB, constipation, diuretics, infections, SBP, hypoK)
2. Lactulose
3. Metronidazole short course (not recommended long term) / rifaximine long term
4. LOLA
5. Liver transplant

Ascites

1. Salt < 5g/day
2. Diuretics F:S 40:100 – 160:400, monitoring K, Cr, Wt
3. Therapeutic tap (if > 5L, give 10g/ each litre of removed fluid. 6L 60g)
4. TIPS
5. LT

UGIB

1. Resuscitation. Blood. Hb 8
2. Stop BB (low BP, risk of HRS)
3. Terlipressin 2mg stat and 1mg 6 hourly / Octreotide 50mcg stat and 25 mcg/hr infusion
4. IV cefotaxime
5. UGI – banding for EV, glue injection for fundal varices
6. TIPS
7. LT

PPI – controversial

Varices
Non bleeding – banding if gr 4 or red signs or bleeding
Bleeding – banding irrespective of size or red signs
BB for mod varices – target reduction of resting HR 20-25%. Carvedilol – relaxes intraheaptic venous channels alfa receptors

HRS

1. Exclude other causes (sepsis, ATN, drugs – ACEI, NSAIDS, diuretics, GN, DM-neph)
2. Hydration
3. Stop BB, diuretics, nephrotoxic Abtcs etc
4. Terlipressin + albumin 0.1g/kg/day (if terli N/A give norad)
5. LT

SBP

1. W > 500 or N > 250
2. Cefotaxime
3. Albumin 1.5g/kg within 1st 6h of admission and 1g/kg on D3
4. 2ry prophylaxis – ofloxacin (we give cipro)

Is the pt a candidate for LT?
Any decompensated cirrhosis is a candidate
MELD determines urgency
PPHTN (& other comobidities) determines fitness for Sx
Liase with GE, transplant and anesthesia, cardiology team

CHRONIC DIARRHOEA

Duration (> 4 weeks)

Is it significant?
Frequency, nocturnal, incontinence

Classification
Volume
Content
Relationship to meals
Pain
Tenesmus, bleeding PR
Malabsoprtion features – steatorrhea, edema, exertional dyspnoea, prox myopathy (vit D defi), easy bruising, night blindness, bitot spots

Associated symptoms
Fever, LoA, LoW

DD
Infection
TB – PHx CHx (home, shanty residential area, work, prison) Constituitonal Symptoms
HIV –
Typhoid
Other infections – ……., Whipple, Brucella, CMV, SIBO

Inflammation
- IBD – fistula, enthesitis, SpA, red eye, AR
- Other AID – SLE, Behcet's

CA –
- CRCA
- GI lymphoma

Endocrine –
- DM ANS
- thyrotoxicosis,
- VIPoma,
- Carcinoid

Miscellaneous
- IBS
- Diverticulitis
- Malabsorption – pancreatitis, CD, tropical sprue, giardiasis, whipple, amyloid, Sx, bile obstruction, congestion (portal HTN, heart failure)

MD themes in IBD

Cause for recurrence of diarrhea

1. Non compliance
2. Disease relapse
3. Infection – C diff
4. Disease complications – fistula, SIBO, stricture
5. Cancer – EATL, IPSID, CRCA
6. Drug induced – ASA, drug induced microscopic colitis (PANS: PPI, ACEi, NSAID, SSRI)
7. Associated other GI disease – celiac, pnacreatitis

Management problems

Relapse Vs infection
Malabsorption of drugs
Drugs induced diarrhea

Respiratory long case

Cough, sputum (volume, blood, yellow, postural), SOB, C/P, wheeze, atopy

Evaluation bundle

SpO2, ABG
CXR, ECG
Hb, WBC/DC, CRP, ESR
Sputum culture, G stain, cytology, special stains
PFT
HRCT
BAL - culture, G stain, cytology, special stains
TB : AFB, culture, mantoux
PCP : silver stain

COPD long case

Dx
Establish Dx – adult onset Sy, Persistent Sy, cough SOB, tightness, scanty sputum
DDx – BA, bronchiectasis, LVF, OSA, OHS
Phenotype – cough and sputum predominant – chronic bronchitis type – more infections and faster decline in lung functions

RF – smoking, organic fumes / biomass fuel users, familial (AATD)

Complications
- CO2 retention - morning headache
- Hypoxia – edema
- Cor pulmonale – PHT and RVH Fx
- Polycythemia

So far
- Inhaler compliance
- Exposure cessation – smoking, occupational
- Vaccination

Control
- mMRC
- CAT
- Exacerbation freq (2 or more / 1or more hospitalizations C / D)

Co morbidities
- ACO – reversible AWD component
- Bronchiectasis – COPD overlap – copious sputum
- Cancer – hemoptysis, LN, LoW
- OSA / OHS
- GORD, PND
- IHD / LVF

Future options
- Newer inhalers – tiotropium MDI,
- Afford LTOT? Machine - O2 cylinder - refill - frequency of refill
- Afford NIV?
- Afford NHFOT?

Evaluation of lung disease
SpO2, 6 MWT, ABG
CXR, HRCT
PFT
ECG, 2DE
BAL
Biopsy
TB screen – Mantoux, sputum AFB / PCR / culture

Thrombocytopenia

Cause
ITP
Infection
Malignancy
BM disease
Hypersplenism

Rx of ITP
Prednisolone
IVIG
Rituximab Vs Splenectomy

Management problems with co-morbidities

1. Diabetes –
    a. insulin injection Vs bleeding
    b. hypoglycemia / neuropathy / postural hypoT -> fall & bleeding
    c. prednisolone for Rx hyperglycemia
    d. splenectomy – infections
2. IHD
    a. DAPT, anticoagulation, SK Vs bleeding
    b. Angio, CABG – arterial puncture, UFH loading Vs bleeding
    c. UFH – HIT Vs ITP
    d. IVIG – increase thrombosis
    e. MPP - HD instability
    f. Splenectomy – operative fitness
3. CKD
    a. PUD bleeding
4. Osteoporosis
    a. GIOP
    b. Alendronate – bleeding
    c. # - hematoma
5. CLCD
    a. Variceal bleeding
    b. Splenectomy bleeding

Thalassemia

PC, HPC
Dx -age, presentation, HPLC, family screening
Rx – BT : freq, pre and post Tr Hb
Fe chelation

	Hx	Ex	Ix
Anemia	Sy Tr frequency Gallstones **Bone pain/#** Leg ulcers **Thrombosis (V > A) sp with EBeta** Urate – calculi, arthritis	Pallor Jaundice EMH Fx – maxilla, splenomegaly Leg ulcers	Hb Hb pre and post target 9-10.5 / 12-13
Fe overload	HF, arrhythmia – palp, syncope Cirrhosis	Heart Liver	Ferritin: 1st, peak, last, trend. Target?? Heart, liver, endocrine
Fe chelation	**Desferioxamine (desferal)** – SC, 8-12h/d d/wk Injection site infection / lipoatrophy Oto, ocular, growth retard. Liver, renal **Deferiprone** – joint, neutropenia **Defarisirox (asundra)** – LFT, RFT, dissolve in water/lime, don't miss the sediment. Empty stomach, 1h before BF	Injection sites Vision, hearing, ht, wt	
Transfusion	ABO grp, extended phenotyping Freq 2-3 wk Reactions TTI Vaccination and serology status		

Long term treatment planned / discussed
HSCT – HLA matched sibling / unrelated HLA matched donor
Splenectomy

Impact
Pt – stigma, coping with bloods injections Ix
Parents – job, travelling, expenses, family planning
Siblings – who is attending to them
Plans for marriage, education, occupation,
High ferritin

Overlaod – compliance, pump failure
Hepatitis / other infections

Hepatitis
Viral
Chelators
HAV

Worsening anemia
Under Tx (not adjusted to weight), room to increase frequency (short life span of transfused blood : ??)
Massive splenomegly
Nutritional / folate defi
Bleeding
Organ disease – liver, renal
Infections – hepatitis

Post splenectomy care
Vaccination + penicillin
Aspirin / GCS
Malaria prophylaxis
?

Family counselling
25% 50% 25%
Adopt
Assisted reproduction - Donor sperms / oocyte
Take the risk

Transfusion reaction prevention
Extended red cell phenotyping – determine non D rhesus grouping and other minor Ag
Leucodepleted – to prevent WBC mediated Rxns –
Washed – remove coating Ab?

Chronic SOB
Anemia – thal itself, bleeding, nutritional, chronic infection, splenomegaly, underTr
HF – high output, Fe overload
Infection
PHTN
PE

Acute SOB
PE
Anaphylaxis – blood, desferioxamine
TRALI / fluid overload
Decompensated HF
DKA

Acute LVF
- Medical emergency
- Medical Mgt of LVF. Rule out MI
- IV Fe chelation with desferoxamine and deferiprone

Acute abdomen

Gallstone cholecystitis, pancreatitis, ileus
Splenic infarct
Hepatitis

No splenomegaly

Splenectomy
Hypertransfusion regimen
? sickle □ hyposplenism

	IDA	Thal (mjr / trait)
MCV	Parallels Hb (< 80)	Disproportionately lower than Hb (< 70)
MCHC	Low	Normal
RBC number	Low	High
Mentzer index (MCV/RBC in lakhs)	> 13	< 13
RDW (11-14)	High	Normal
Bpic	Pencils, targets	Basophilic stippling, targets
Retic index	< 2%	< 2%
Fe studies	Fe def	Normal / overload

When desferioxamine brings ferritin down should stop it to prevent desferioxamine toxicity

Ischemic heart disease (IHD)

MD themes

1. Diagnostic doubts (atypical presentations, normal angiograms – MINOCA, INOCA)
2. Young MI
    a. FH
    b. Vasculitis
3. Management problems
    a. DAPT, UGIB
    b. AF in IHD
    c. IHD in CKD – CA safety
    d. Impotence – drugs, shared etiology

SHx in IHD

Smoking, alcohol
Occupation – activity limitation
Sexual activity

Examination

DL Fx
Xantholesma / mata / corneal arcus
Nicotine stains
Ankle edema
Pulse tree
BP both arms
JVP
Bruits
Evaluation

ECG, 2DE, TMT, DSE, CTCA, CA
A1c, Lipids
    NHDLC
    Lp(a)
    apoB:ApoA ratio

MD themes in COPD

Reasons for poor control / recurring symptoms

1. Compliance
2. Infection
3. Smoking / continued exposure
4. Natural progression of the disease
5. Complication – PHT, bullae, pneumothorax
6. Cancer + collapsed lung
7. Co-morbidities : LVF/MI, PE, TB

Formulation and prioritization of problem list

Prioritize based on
    Life threatening severity
    Patient concern

Concentrate on the examination

General

Management of depression in
DM, CKD, CLCD, IHD

Rheumatoid arthritis

SOB
    ILD –
    MTX – 2 immsupps need cotrim, but cant give with MTX
    Infection –
        PCP – cotrim, MTX interaction
    Cardiac – IHD, amyloid
    PHT – RA associated, overlap Xd, vasculitis, CTEPH
    Upper air way – cricoaretynoid arthritis – VC dysfunction

Myasthenia gravis

Relapse – causes

1. non compliance
2. infection
3. thymoma relapse
4. steroid myopathy
5. drugs – statin,

fatigue

1. anemia
2. hypothyroidism
3. resp failure
4. resp infection

anemia

1. steroid PUD
2. hypothyroidism
3. thymoma PRCA
4. pernicious
5. AIHA

Crisis EBM

No placebo controlled trials

1 RCT compared PE Vs IVIG

- 90 pt
- PE x 3d Vs IVIG 0.4g/kg/d (3d Vs 5d)
- Outcome – improvement in Myasthenia Muscle Score (MMS)
- No difference
- Less ADRs with IVIG
- Limitation – small N, long term outcome, need for ventilation etc not assessed, subtypes not analysed

1 retrospective anaylsis of pt records

- 54 myasthenic crises
- PE better outcome than IVIG – ventilatory status at 15d and functional status at 1m
- IVIG less adversities

1 retrospective observational study

- 700 MG crises – PE Vs IVIG
- PE – higher mortality
- Limitation – selection bias – probably sicker pts got PE

IVIG dose comparison

- 170 crises
- 1g/kg/d Vs 2g/kg over 2 days
- No diff in MMS

Recurrent ulcers

Vascular
- Atherosclerotic
- Small vessel Vasculitis

neuropathic

infectious
- Oseomylelitis
- Recurrent abscess □
- Actinomycosis

Hemolytic anemias

Smoking cessation

All 3 are equally effective. Need to give for min of 3-6m
2 or more treatments improve quit rates

Nicotine
Patches, lozenges
Vivid dreams, insomnia – overcome by removing the patch at night

Buproprion
An antidepressant with nictonic eceptor blocking activity
Insomnia
Interactions through CYP 450s
Start 14d before target quit date

Varenicline
Nicotine receptor partial agonist
Start 7d before target quit date

Alcohol use disorders

Arrack bottle	**750 mL**	**30U**	**(40%)**
Beer can	**500 mL**	**2U**	**(4-8%)**
Wine glass	**100 mL**	**1.25U**	**(12%)**

Disorders of alcohol use

Dependence

2/3 of following in a user > 1m

- Loss of control – strong desire, can't control (over starting, quantity, termination)
- Priority – over other pleasures, responsibilities, despite health effects
- Physiological - tolerance and withdrawal

Harmful alcohol use

User > 1m of continuous or regular for > 12m
Physical mental or social (behavioural) harm
Without features of dependence

Alcohol induced disorders

Acute intoxication
Withdrawal
Psychotic illness
Physical illnesses
* alcoholic hallucinosis not described

Delirium tremens

Triad of

1. Altered conscious level / confusion
2. Tremors
3. Hallucinations (tactile, visual)

Convulsions can occur at any time in the course of illness

Fits during alcohol withdrawal - Unusual features (thus warranting Ix for an alternative cause)

Onset > 48h after last drink
Focal onset
Status epilepticus
Symptoms / signs of alternative CNS pathology – fever, FNS etc

Adv decompensated CLCD delirium Rx – lorazepam

Helping to quit

Disulfiram

Inhibits aldehyde dehydrogenase accumulate acetaldehyde nausea, vomiting, flushing, tachycardia, dyspnea, syncope, throbbing headache, sweating, uneasiness etc if alcohol is taken
To maintain abstinence
Other drugs causing DLR metronidazole, tolbutamide, cefoperazone, griseofulvin

Naltrexone

Opioid receptor antagonist at brain
For Rx of opioid dependence, alcohol dependence, pruritus in cholestasis

Acamprosate
333mg
Neuromodulator anti-craving
To maintain abstinence
SE: diarrhea

Altered behavior

ABS MT PCI

	Organic	Psychiatric
	Acute / subacute	Subacute / chronic
	Old	Young
PHx of psy	No	Yes
ABS		
Mood		
Thoughts		
Perceptions	VH	AH
Cognition	Altered LoC	LoC intact
Insight		
FNS	+/- EPS, movements, fits	-

Cortical networks for cognitive functions

Network	Function	Disease	Testing	Causes
Perisylvian language	W – meaning (recog and generation) B – produce grammatical speech	WA – weak language understanding, naming, repetition. Jargon speech BA – understands. Weak repetition. Non fluent speech*	Name objects Understand verbal and written commands Speak out or write a sentence Repeat no ifs and buts****	Dominant side Stroke, tumor, infection, degeneration
Limbic	Develop / retrieve memory	Loss of memory Retrograde < anterograde (new memory formation impaired). Retro affects recent > distant. R > A in temporal epilepsy & BDZ poisoning	Short term recall	BL Degeneration Toxin encephalitis
Occipito-temporal	Visual recognition	Facial – prosopagnosia Object agnosia *	Identify pictures / objects	BL Degeneration
Fronto-parietal	Spatial recognition***	Hemisensory neglect Dressing apraxia Constructional apraxia	Number the clock Draw a star / join numbers	

Pre frontal	Attention Executive Inhibition Volition	Inattention Frontal abulia or frontal disinhibition Loss of executive func	Serial seven, months in reverse	BL Tumor, ruptured aneurysm, degeneration

Non fluent speech – breaks, pauses, sentence fragments
Object agnosia – cant recognize the object. Wont know what to do. In nominal aphasia, cant name the object, but knows how to use it.
*** right parietal represents both sides. Left parietal represents right only. Spatial disorientation occurs when right parietal lobe is diseased, and produces left neglect and other signs.
**** repeating no ifs and buts tests repetition. Repeated complex words (british consitution) tests dysarthria.

Mood – limbic
Schizophrinia – dorsolateral prefrontal (and hippocampus)

Alzhimer : limbic perisylvian and parietal frontal
STM loss nominal / other aphasia, apraxia disinhibition, psychotic

LBD: VCP (VCAPS)
PDD
FTD: frontal type

Limbic encephalitis – mood and memory
AIE – NMDARE type: psychosis (FPF CDAM)

Hypothyroidism – depression
Apathetic thyrotoxicosis – depression
SREAT -
Cushing - ??

Delirium – fluctuating LoC, inattention, VH, muddled thinking

Uremia – fits, delirium
Hepatic encephalopathy - drowsy

Alcohol
Cannabis: acute:
Cocaine : acute : hallucinations. Chornic – dependence
Heroin : acute : depression / psychosis / euphoria. Chornic - dependence
MDMA acute : hallucinations (visual), bruxism, illusions
Chornic : depression, memory impairment

Wilson :

Depression in medical disroders

1. Impaired coping
2. Effect of disease
3. Effect of drugs
4. Mere coexistence

IHD
Impairs rehab. Poor HR variability adds to morbidity. Overall increase mortality
TCAD – Cin in BBB and CCF (causes tachycardia)
SSRI – inhibit plt aggregateion, benefitial in IHD. But inhibit antiplt metabolism, increasing the bleeding risk
EsDEPACS – escitalopram for post MI depression within 3m (5-20 mg/day) reduces CV MACE at mean F/U of 8y N=300,
RCT from south Korea

DM
Depression parallels glycemic control
TCAD – hyperglycemia, CHO craving
SSRI- hypoglycemia, increase satiety

Mania – medical causes

Sympathomimietic substances – Coccaine, MDMA
Hyperthyroidism
AIDS
HD, WD, strokes

Schizophrenia - DD

Anti PD drugs

Routine lists

Work on problem list and DD

Drugs Hx

Current drugs
Recent changes
Compliance and reasons for non compliance

Oral, topical, inhaled, injectable, CAM, OTC
Warfarin, iron, alendronate / MTX (weekly pill)

CTD case : Pred, MPP, CPP, AZT, MMF, SSZ, CSP, ritux, inflix, goli

SHx

Living environment – housing, support structure, dependents

Occupational Hx

Financial status

Travel facilities and travel history

Habits

Education

Diet

Risks

Impact – what things cant you do due to illness, of the things you used to / liked to do in the past?

Concerns –

Expectations

SYMPTOM ANALYSIS

Mono-ocular visual loss

CRAO – pale fundus, cherry red spot
AION – pallid disc edema – arteritic, non arteritic
ON – pain on movement. Normal disc. Non pallid disc edema in retrobulbar papillitis
CRVO
Endophthalmitis

Orbital pseudotumors

GPA
MPA
Graves disease
TB
Sarcoid
Lymphoma
Fungal infection
IgG4RD

Upper GI bleeding

Haematemesis, melena

Dx	Frequency volume etc
Cause	MWS
	varices – cirrhosis, alcohol, HH, ascites, jaundice, splenomegaly
	PUD – NSAIDs, GLcc / CAM, chronic dyspepsia, Ca
	Cancer – LoA, LoW, LN
Complications	blood transfusion,
Rx	UGIE

Anaemia

Aetiology
Chronic blood loss – melena, hematemsis, hemorrhaoidal bleeding, menorrhagia (thyroid, coagulopathy), UGIE, LGIE
Diet, appetite
Malabsorption – chronic abd pain, diarrhea
B12 risks – vegan, vitiligo, AI thyroiditis, neurology, optic atrophy
Marrow failure = mucocutaneous bleeding, recurrent infections, oral ulcers

- AA : DVT, hematuria (PNH)
  Chemical, drug, radiation exposure

Hemolysis

- Familial
- Acquired
  - Immune AIHA, alloimmune
  - Non immune MAHA, PNH

FHx of hematological disorders

What has been done / Rx
Blood transfusions & reactions, blood group, epo,
Chronic disease

Recurrent falls

With LoC

1. Syncope : reflex (VV, CSH??), cardiogenic (arrhythmia – brady / tachy, LVOTO), postural hpotension (ANS, drugs, hypovolaemia)
2. Seizure :
3. Metabolic : hypoglycemia
4. Ischemia : post circ TIA

With intact LoC

Neurological:

1. P neuropathy – DM, alcohol, hypothyroid, B12, CKD, vasculitis, hereditary, drugs
2. Myopathy / frailty – osteomalacia, statin
3. PS : spasticity – recurrent strokes, cervical myelopathy, NPH
4. EPS : PD, PPS
5. Cerebellar
6. Vestibular system
7. Vision
8. Hearing
9. Dementia

Risks
Hx/o falls, head injury, SDH, pathological #, osteoporosis, FHx of osteoporotic #
Risks of fall – heights, balcony, machines, steps, slippery bathroom, footware, firewood, cooking, driving

Falls in hypothyroidism
proximal muscle weakness, arthralgia, peripheral sensorimotor neuropathy, bradycardia, heart failure, slowness of thought, and poor attention

Deep vein thrombosis

Onset and Dx
Sites affected – venous / arterial
- CVST
- Jug veins
- PE
- Budd Chiari
- RV thrombosis
- LL DVT
- MI
- Stroke
- Mes ischemia

ALI

CTD
- SLE
- Behcets

Hyperviscosity
- PRV
- WM

Procoagulopathy
- Familial – FHx, consanguinity
- Acquired
  - PNH

Osteoporosis work up

DEXA, Ca, P, ALP (vit D, PTH)

Secondary causes –

Drugs and allergy

SHx

Birth – where

School – highest education, languages, literacy

Occupation Hx

Marital Hx

Age

P C

Promiscuity

Family planning

Partner – job, health status, habits, concerns

Current living

Where

Home environment

Living with

Family support

Finances

Income

Debts

Problems

Travel and leisure and habits

Foreign, local travel (where, when, stay duration, activities, sexual contacts)

Past time – pets,

Habits – smoking, alcohol, substance,

Routine day

Diet

Modes of travel

Disease and impact

1. Awareness of disease and therapy and ADRs
2. Concerns
3. Expectations
    a. Cure
    b. Symptom relief
    c. Drugs therapy adjustments
4. Disability
5. Impact on family

Ask – mono ocular Vs field
Pain, redness, discharge, trauma

Swallowing assessment
Video-fluoroscopy
FEES –functional endo evaluation of swallowing
Esophageal manometry

GI bleeding and antithrombotics

Antiplatelets
Continue 1 unless the bleeding is imminently life threatening
DAPT – continue aspirin (cardiols say to continue clopid, but it's a more potent bleeder). Achieve hemostasis and restart DAPT in 3-5d, before discharge

Anticoagulants
If INR is supratherpeutic,
    Severe bleeding - reverse with FFP, vit K
    Moderate – mild bleeding – withhold next dose
If INR is normal and severe bleeding, skip the next dose
If the indication is strong (metallic valve), switch the UFH

T'lysis – consider only if bleeding is mild and hemostasis is achieved

Overall idea
Risk of thrombosis with discontinuing anti thrombotics is 20 time higher than risk of uncontrolled bleeding with their continuation. So try to continue antithrombotics

Difficult cases discussed

Case 1

41y F
Recurrent oral ulcers x 4y
Ix for thrombocytopenia with BM
Itchy rash in feet x 6m

Epigastric pain x 7d
Ischemic chest pain x 1d □ CA □ single clot □ stented
Recurrence of chest pain on D 10 and transient L UL weakness on D10
FHx of young death from stroke / ICH

Ex
Afebrile
Oral ulcers, depigmented lips, scaling feet and leg rash
CVS RS Abd CNS normal

Problems

1. Young MI
   DD :
   a. CTD + vasculitis
   b. Thrombophilia - CTD + APLS / inherited
   c. Premature atherosclerosis
   d. IE with emboli

2. post PCI chest pain
   a. re MI – not adequately treated with DAPT
   b. Dressler
   c. NSAID gastritis

3. TIA
   a. Vasculitis
   b. Thrombophilia
   c. IE with emboli
   d. TTP
4. Background of skin disease and thrombocytopenia
5. Poor education

Post CA AKI

1. Contrast nephropathy
2. Cholesterol embolism
3. IE related – emboli, infarcts, GN
4. SLE related – GN / RPGN
5. Thrombophilia related – RVT

While in ward develops anemia and thrombocytopenia

1. Evans
2. Endocarditis induced mechanical hemolysis and thrombocytopenia
3. DIC
4. TTP
5. HIT + drug induced bleeding

Problems to anticipate

1. Low plt with stent in situ
2. Recurrent thrombotic events while on Rx
3. Poor education level and CTD – requiring long term therapy

Libman sack
MV > AV
Can embolize

Case 2
45y F
Chronic hypothyroidism
Recurrent alternating leg swelling
Painful neck swelling
Low UOP

Ix Rx including DJ stenting

DD
Lymphoma (neck lumps, ureteric compression, IVC / iliac V compression)
IgG4 disease – reidle thyroiditis, retroperitoneal fibrosis venous and ureteric compression. Can have chronic organ disease

DD for neck swelling
Thyroid
LN
Soft tissue
Muscle

Case 3

1. Acute renal infection complicated with acute kidney injury in a background of CKD
2. Haematemesis in a patient on DAPT following stented coronary arteries
3. Severe vomiting, poor dietary, need for insulin with sepsis in a patient with hypoglycemic unawareness
4. Advanced CKD with medical and social limitations for renal replacement therapy
    a. Cannot afford chronic HD
    b. KT – no potential donor, past Hx of TB, living in a suburb, poor education, Hx of non compliance
5. Poorly controlled diabetes requiring insulin, dependent on wife for injection, has poor vision
6. Erectile dysfunction, concerning the patient, worry of martial disharmony where wife is the sole breadwinner of the family with 3 young children
    a. Causes of ED – DM neuropathy, vasculopathy, OSA

Case 4
70y man
DM x 12y, metformin, FBS 150
Asymmetric small fibre sensosry neuropathy 1y
Watery diarrhea x 6m
Postural dizziness x 6m

OEx – left base consolidation

DD
1. Disseminated TB – lung. Bowel, Addison
2. DM complications – ANS neuropathy + infection
3. Lymphoma – air way obstruction, GI, AN neuropathy
4. Lung cancer
5. HIV
6. Amyloidosis

Case 5
65y F
DM, HTN, hypothyroidism – 4y, well controlled
Ankle edema + painful feet + right foot drop (both DF and PF) + left ulnar region numbness + BL visual impairment – painless, gradual, pale disc

Problems
1. Edema – P'uria
2. Feet pain – neuropathy, arthritis
3. Foot drop – radiculopathy, MnM
4. Visual loss – AION (non arteritic), ON

DD – small vessel vasculitis – cryo, AAV
Iry / Paraneoplastic
Leprosy
DM

Case 6
58y M
HTN 3y, vitiligo 10y, heavy alcohol, smoking, remote Hx of RF for STIs
NYHA IV, Orthopnea, edema, ascites –
Hypothyroid Sy 3m
Depressed – business demands
Obese
R / pleural effusion, BL crepts, AR murmur, ascites

Problems
1. SOB
    a. HF – AR – cause ?? No IE Fx. No marfan, Anky spond
    b. Alcoholic CMpathy
    c. Hypothyroid CMpathy
    d. AI cardiomyopathy ????
2. Extensive edema
    a. CCF
    b. Hypothyroidism
    c. CLCD – alcohol, R/F for HBV

    d. Renal –
    e. PLE – CCF – gut edema
3. Hypothyroid Sy

Case 7 Nawaz
ITP – pred, IVIG, ritux, splenectomy, recurrence – consider accessory splenic tissue / lymphoma
DM – problems with pred, insulin injections, infections
IHD – problems with CA, T'lysis, UFH (HIT Vs ITP), DAPT, IVIG/MPP during ACS

Case 8
Kasun Chathuranga, 29y
Anky spond – NSAIDs Vs IBD. Cant swallow SSZ
CrD – peri anal abscesses, surgeries
DM – needing high dose insulin, obese man
Recurrent TB afer infliximab
Hematuria – IgAN, enterovesical fistula
Hypogonadism
Obesity
CVDr – DM, HTN, infl disease, steroids?, obesity, sedentary lifestyle
Compliance
Exertional SoB – restriction of thoracic cage, lung fibrosis, AR/LVF, DM-CMpathy, post TB scarring / broncheicatasis, anemia, lymphoma

Case 9
Kulendran
25y man
Progressive Ex SOB 8m and ankle edema, abdominal distension, jaundice for 7 d
Thyrotoxic symptoms
Hx of substance use

OEx
AF
MS, PHT Fx with high JVP
tattoo

DD
Heart failure with congestive hepatopathy
    Substance induced
    Thyrotoxic
    Idiopathic, CHD, RhHD, HIV

Management problem
Controlling thyrotoxicosis may not relieve AF as he has severe MS – difficulties in assessing thyroid status
?candidate for radio iodine

Case 10
Vikum,. 32y
2005 – fever, headache, fits, hematuria – FU only 2m
2010 – PUO, LoA, abnormal UFR LN III CPP, pred, AZT
2016 – STEMI + arrest PCI, short term warfarin
2018 – default. Ischemic chest pain rpt CA : 60% occlusion fo the stent

Ex smoker
risk sexual acts+

OEx – normal

Problems
SLE in remission
ACS current presentation
    Stent thrombosis – non-compliance
    Recurrence of vasculitis
    Atherosclerosis
    APLS
Depression
    Cerebral lupus
    Social adversities
Social – isolation, relationship failure, depression with suicidal ideation
Young MI – no APLS Fx / previous DVTs or Pes or CVTs.? Vasculitis, smoking related, atherosclerosis

Case 11

Renuka priyangani, 42
Pw pyelonephritis
HTN – at 12y, headache, LoC □ ICU
    Focal fits with 2ry gen 2m later
2 pregnancies at 16 and 17 years □ HTN and fits at term (? eclampsia)
Lost to FU
Toe gangrene at 38y, finger ischemia at 39y
Claudication, recurrent TIAs (L / FAL weakness) for 6m
Recurrent leg ulcers - painful
No angina
Started on warfarin recently

OEx – obese, absent pulses, subclavian and R carotid bruits

DD
TAK □ RAS □ HTN and other ischemias
Young HTN of alternative etiology with atherosclerotic large vessel disease

Leg ulcers DD
Ischemic ulcer
Small vessel vasculitis / APLS 2ry

Ex SOB DD
HTN HD
CKD
Warfarin menorrhagia anemia
APLS, CTEPH

Pregnancy complications DD
HTN
APLS

Problems in evaluation
DSA – warfarin, absent pulses, renal impairment

Etiologies
TAK
TB
Syphilis

Mgt problems
Cant measure BP!
Obese – but cant exercise due to IC and exertional SOB
Poor education and support

Case 12
75y F
DM 15y, HTN 10y
Recurrent ACS 8m 6 attacks, NYHA I III, CCS I III, 2nd floor of flat, home bound
DD
DM / age related atherosclerosis
GCA Fx – not present

Case 13
27y man
3y SOB – treated as asthma
Recurrent infections
2m – abnormal CXR
1m – LL prox muscle weakness, diplopia, drooping, slurring, worse to evening

Ex – fatigable
Dull right base

DD
Thymoma + MG
Lung CA + paraneo MG - unusual to cause ocular MG

Lung dullness mass, effusion, diaphragm palsy

Syn-pneumonic effusion – small in size, ill patient

Case 14
31y F
16y – PUO, B Sy, alopecia, oral ulcers, infl arthritis LJ and SmJ, proteinuria, low WBC, high AST, ALT
Oral MPP pred, AZT
Remission sustained with therapy
27y – painless abdominal distension, mild ankle swelling
    UGIE – varices banded and cured
    Liver biopsy – interface hepatitis
    No J, UGI bleeding, LoC
    BO, UOP NL
PoA 1y
Exertional SOB

Problems
Differential ascites
- Liver disease
  - AIH – can progress to cirrhosis
  - Chronic BC Xd APLS, nephrotic
  - AZT, MMF, lupus hepatitis – usu do not cause cirrhosis
  - Unrelated – viral hepatitis, familial
- PVT
- Peritoneal disease –
  - Serositis – painless, no disease activity else where
  - TB – no B symptoms, 4y
- Hypoproteinaemia
  - PLE – constrictive pericarditis, lupus gut
  - LN

Amenorrhea
- POF
- Chronic disease – HPO suppression – more likely since no menopausal Sy
- Drugs – CPM – not received

SOB – ascites, anemia, PHT (CTEPH), HF (HTN), pericarditis

Ex
- Ankle edema, JVP flat, hepatomegaly, ascites
- No spleen
- No SLE, SSCl Fx

DD
Cirrhosis
- Chronic BC Xd – hepatomegaly
- AIH
- Other

PVT – less likely no spleen

Case 15

Kuvendran
25y 3-wheel driver
3/2018 – exertional dyspnea NYHA II
- Cough, wheeze, hemoptysis.
- No CP, palp, PND
- LoW, diarrhea, heat intolerance
- Admitted presyncope
- Rx – BDs, warfarin, CBMZ

Improved
10 / 2018
- SOB, orthopnea, ankle edema

Off job.
Missed : long standing exertional fatigue / SOB
: gave up previous job due to SOB several years ago

OEx – diffuse goiter, AF, MS, PHT

Problems

Progressive SOB with ankle edema

- MS + PHT + RHF
- CCF due to thyrotoxicosis / AF / substance

Thyrotoxicosis with diffuse goiter

- Graves
- Thyroiditis – can go on for even 12m

PHx of long standing exertional SOB

- PHT
- Asthma

Substance, smoking, poor compliance, job loss

Why dizziness

- Arrhythmia
- Posterior circulation TIA
- ? Addison (pigmentation? missed)

Mgt

Resuscitation

- Tight MS with pulmonary edema is the only indication for IV BB in pulmonary edema
- Cardioversion under heparin cover (amiodarone)

Mgt of VHD – probably will need surgery

Mgt of thyrotoxicosis

- CBMZ time to response unpredicatable
- RAI – probably the best option now
- Surgery – not fit due to cardiac disease

Other problems

Case 16

35y lorry driver
Recurrent non exertional short lived chest pains for 4y
Chest pain while driving – ischemic Fx + 15 min left UL and LL numbness, weakness
Rx medically partial improvement with PT dependent for mobility
Father died at 42y -? Cardiac

Case 17

28y P1C0, 8 wk
2013 SLE – arthralgia, GTC, HTN, P'uria, anemia – 4 BTs
Prednisolone diabetes
2014 – default
1ry subfertility – male factor
P/w – N, V, LoA

DD
Symptoms of early pregnancy
HG
Diabetes / DKA
Thyroid disease

Ca disease, Addison

Evaluation
acute evaluation

Long term evaluation

Follow up

DD

Young stroke, recurrent non exertional chest pain, FHx of SCD

- Ischemic stroke
  - Premature atherosclerosis
  - Cardiac arrhythmia with thromboembolism (arrhythmogenic chest pain)
  - Thrombophilia
  - Hyperhomocysteinaemia
- Hemorrhage
  - AVM
  - Hypertensive aneurysm

Case 18

70y M
2000 – HTN, DL, IHD, CABG
2013 – ex SOB, J LN and BM Bx steroids responded and stopped in 2016
Relapse in 2017
Relapse in 2018 while on steroids, without jaundice

OEx – hepatomegaly

DDx for current presentation

Ex SOB

- Anemia
- HF
- PHTN
- ILD

Relapse of AIHA / lymphoma
Alternative cause

- PUD bleeding
- CRCA
- Myeloma
- MDS
- Chronic infection – TB, HIV
- CKD, CLCD

Case 19

46y F
2016/12 – altered behavior, psychosis
2017/3 – alopecia, joint pain – SLE – pred. Sicca symptoms+
DM same time – metformin
2017/4 – BL sym numbness hands feet, painless, no weakness, no ANS, bulb or eyes. Falls
2018/6 rapid worsening of numbness. No Fx of SLE relapse
    Started on IVIG – partial response
Hypothyroid Symptoms

OEx
cushingoid
goiter
90/60
Loss of JPS and pain – all 4 limbs
Hyporeflexic. Motor 4/5
Plantar no response
Cerebellar -missed
Cataract –

DDx

Polyneuropathy
    DM
    CTD related
    sCIDP
    ganglionopathy with SjS / lymphoma
    B12 – poor diet, metformin, pernicious

CTD
    SLE +/- SjS

** PN assessment did not come out well – toxins, alcohol, OPDN

** falls risk assessment – home env assessment
    Syncope
    Cerebellar, myopathy, neuropathy
    Arthritis
    Vision
    Balance -ear

    Home, toilet, floor tile, slippery, sleep on bed / floor

AH : psychiatric
VH : neurological

Case 20

47y M
DM, HTN 6y – virtually untreated. On-going polyuria
Recurrent L UL heaviness / ? pain for ~ 2m
10.12.2018 - Acute L / UL numbness while driving + blurring of vision + unsteadiness + mild headache + sweating while driving. Reached pvt hosp within 30min – 220/120 – deferred admission
11.12.2018 GP, Rx with orals. No improvement admitted MRI stroke
Mild improvement over days
15.12.208 severe R/sided headache waking up from sleep. X 1h.

PHx
RTA pin CAM, 2009. WHAT WERE THE CIRCUMSTANCE OF THIS RTA? WAS IT ALSO A TIA???
unRx DM, HTN
OSA – snoring+. Sleepy : at leisure, not while driving

OEx – L/Homo hemianopia
No weakness. L/S paresthesia. No astereognosis, L/R disorientation, hemisensory neglect
BP 140/80, No bruits, murmurs, AF
BMI 35, WC 127, collar 17'
No loud P2 / plethora
Goiter+. AJ absent. SENSORY NEUROPATHY?,
Cushing – no striae / round face / hump
DM – AN +. Feet ok. Pulse present

Problems
1. acute headache
    DD : headache associated with stroke – varying severity, IL to lesion side, N V Ph Ph
        ICH > infarct
        POCS > ACS
        Cortical > subcortical
        Venous > arterial
        Right hemisphere > left
        Women > men
        Low (< 120/70) BP than high BP
    Migraine
    Tumor bleeding
    PRES
    SAH with vasospasms

2. infarct, after recurrent TIAs
    Probably PACS – hemianesthesia, VF defect
    Lacune – would have had more weakness
    POCS – more BS signs
    ?? cortical -- ?? embolic : IE Fx

3. obesity
    Cause – diet, sedentary, ? hypothyroidism - goitre, ? Cushing – no Fx
    OSA
    ? NAFLD
    KJ OA?
    Skin crease intertrigo
    Metabolic Xd
        Options – medical : metformin, orlistat, liraglutide, locaserin
    BMI cut offs

4. problems with rehab
    VF defect – prognosis : no recovery in 50%
        Rx options
            Visual scanning training
            Optical aids – prism to the lens of glasses

Why sweating at the stroke onset

- SNS activation
- Hypoglycemia - which itself could cause FNS

Cardiac effects after stroke

SNS activation – sp with insular strokes (ANS regulatory effect)
    High BP, HR
    Effects on heart (known to occur in 6% of strokes)
        Arrhythmias – AF commonest (AFDAS), VT, VF
        ST/T changes – sp with SAH
        RWMA
        Raised TnI
        MI
        Cardiac arrest

Stroke does not occur after a rapid BP shoot up. Instead, it's the stroke that causes the BP rise.
Greatest BP rises are seen with lacunar infarcts!. Returns to baseline over days.
HTN enceph presents without focal signs. Therefore high BP in acute stroke doesn't imply a HTN emergency

Hyperglycemia after stroke

In 50%
Elevated cortisol and adrenal medullary catehcolamines

Case 21

25y
SLE/APLS
2014 headache L/ hemiparesis PLEX, APLS +ve : warfarin
        Why warfarin? – APLS, cardioembolism
2016 PUO w/o SLE flare Fx visceral lesihmaniasis
2018/10 migraineous headache with aura
2019/1/6 acute right hemiparesis w/o worsening headache. INR 1.3

Problems
1. recurrent acute neurological events in a young female with SLE
    Infarct - APLS
        CVT :
        Vasculitis – headache
    Haemorrhage - warfarin
    TTP
    Infection
    Demyelination : MS / NMO-SD : Hx of visual impairment
    Atherosclerosis / cardioembolism
    Migraine + stroke : MELAS, CADASIL, CARASIL (parents were consanguinous)
    Migraine is also asso with PFO and stroke
2. warfarin failure
    Compliance
    Interactions
    Rapid metabolizer
    Alternatives
        NOACs – still under Ix for APLS : TRAPS, ASTRO APS
        LMWH

Long acting heparins : idraparinux – seems not to be in use these days

Is migraine asso with stroke – yes in females who are obese, smoking and on OCP
Link to PFO
- Large ? > 5mm, with wall aneurysm, when other cuases are excluded, can be causally linked
- In a pt with thrombophilia, worth closing since at risk of DVT and paradoxical embolism

Case 22
DM, ESKD, on HD (for last 4m) presenting with a seizure 8h after HD
Found to have facial swelling and engorged neck veins

Cause for fits
Metabolic
- Hypoglycemia
- Ca, Mg, P, Na
- DDS – less likely since was on HD for 4m
- Alcohol withdrawal

Mass
- SDH – UFH in HD
- ICH – would have had FNS in outlasting the fit
- Tumor – primary, secondary (from a pancoast or mediastinal LN lymphoma – also causing SVCO)

CVT
- Thrombophilia – neck SVC thrombosis

Infection – would have had residual defects / low LOC
- TBoma, toxoplasma, cryptococcosis
- Viral encephalitis

The non-adherent patient

Intentional non adherence
- Pt willingly wants to avoid treatment

Unintentional non adherence
- Pts wants to adhere, but are prevented by barriers

Contributing factors – AIM model
Ability – cost, cognition, dexterity, access
Information – knowledge of the disease, need for Rx, Rx benefits and harm, when how and how long to take
Motivation - attitude abt illness / Rx interaction

How to assess
- Self reporting
- Medication refill
- Pill box
- Electronic drug monitoring (device to count the number of times a pill box was opened)

How to improve adherence

Patient education – identify reasons for non compliance, correct, identify support available
Simplify medication regimen – combo pills, long acting drugs
Clinical pharmacist consultations
Reminders – texts, calls, alarms
Cognitive behavioural therapy
Incentives for compliance – full prescription insurance coverage etc

ADL

Basic ADL

DEATH – dress/bath, eat, ambulation, toilet, Hygiene

Instrumental ADL

Telephone
Travel
Shopping
Cooking
Cleaning – housekeeping
Laundry
Medication
Money

Healthcare costs

Insulin
Soluble
Mixtard
Glargine
Lente

Syringe
Needle

DPI
MDI – sal
MDI – beclametasone
MDI flusal

Ipravent

Spacer

CPAP 3 lakhs

LTOT
Concentrator - 3 laks
Cylinder – 20 000

Rituximab - < 100 000
Infliximab – 40 000

Pneumococcal vaccine

Evaluation bundles

HOW WILL YOU EVALUATE?
This patient has multiple problems. Which I wish to evaluate parallelly. / …. Is the problem I consider most urgent to evaluate.
Aims of my Ix are to

- **Establish the Dx and guage the severity**
- **Find the aetiology**
- **Identify complications**
- **Plan further management**

I would start with Ix to assess organ function, injury and severity
FBC – looking for
RFT, LFT – for

HOW WILL YOU TREAT?
Aims of my treatment are to

- **Relieve symptoms**
- **Correct the cause**
- **Rx/Px complications**
- **Rx/Px disease progression**
- **Minizmizing drug toxicities,**
- **Ensure compliance, follow up and screening**

Ascites
LFT, ESR, FBC
AFFR – SAAG
Low SAAG – non PHT

- AF cytology, culture, cell conts, Mantoux, CXR
- USS, CECT abdomen pelvis
- Peritoneal biopsy

High SAAG – PHT

- PV, HV doppler
- UGIE
- 2 D echo

Investigation panel for liver disease

1. LFT, aPTT, PT/INR, Cr, FBC, NH3, UGIE (APRI, R indices)
2. USS Abd – duct dilatation, cirrhotic changes, PHTN

3. HBsAg, HAV Ig, HCV Abs
4. Ferritin, tr sat, ceruloplasmin, 24h urine Cu
5. IG total and subsets – IgG, IgG4, IgM
6. ANA, ASmMA, AMtA, □ anti LKM-1, pANCA (atypical)
7. MRCP
8. Liver biopsy
    - Interface hepatitis, L, zone 1 – AIH, viral hepatitis
    - Steatosis, ballooning, Mallories, PMNL / L, chicken net fibrosis, zone 3 – ASH / NASH
    - Periportal L, granuloma, fibrosis – PBC
    - Periductal onion skin fibrosis, L – PSC / sdPSC
    - Granuloma – TB, sarc, DILI
9. Lipid profile
10. DEXA

Dyspnoea

SpO2, ABG
CXR, ECG
Hb, WBC/DC, CRP, ESR
Sputum culture, G stain, cytology, special stains
PFT – spirometry with DLCO
HRCT
BAL - culture, G stain, cytology, special stains
TB : AFB, culture, mantoux
PCP : silver stain
ILD : occupation / exposure / drugs / CTD- RF, ANA

Pleural effusion

CXR
USS guided fluid aspiration – FR, lights, G stain, culture
CECT chest

Renal disease / AKI

UFR, UPCR, phase contrast microscopy
Cr, K, ABG, Fractional excretion of Na / uric acid
USS KUBP
ANA, ANCA, anti GBM, C3, C4, cryoglobulin level
HIV, HCV, HBV, 2DEcho, TSH
Renal biopsy + immunofluorescence + EM

Anemia

FBC, B pic, Retic, bil, LDH, ESR
Fe studies, B12, FA
DAT, DAT profile, urine hemosiderin, G6PD assay
Cr, LFT
UGIE, LGIE

Seizures

CBS
Na, Ca, Mg, P, Cr, LFT
ECG
CECT / MRI + MRV
EEG
CSF – FR, infection screen, cytology

AIE screen
TSH

Diarrhea
Stool inspection and FR, Stool culture, fat globules, 24h fecal fat excretion, lactoferrin, calprotectin
FBC, LFT, INR, RFT, ESR, CRP, TFT, FBS, TB screen
USS abdomen – LN, fluid, organomegaly, abscesses
Flexi sig / colonoscopy with ileal intubation and biopsy

TB screen – Mantoux, CXR, AFB, culture, PCR

MM screen – FBC, ESR, BP, uBJP, SPEP/SPIF/SFLCA, skeletal survey, Ca, RFT

Miscellaneous questions

What is capacity?
Ability to receive, understand, analyse information and communicate response

Can he give consent?

Costs
Insulin – per unit:
- Mixtard
- Aspart
- Glargine – 100
- Glargine - 300

Liraglutide
CPAP : 3-5 lax
LTOT – cylinders – 20 000/m, concentrator – 2-3 lax