Miscellaneous medicine

Short case history

Short case examination

Anaesthesia and connective tissue disease
Short case history

General history
  Presenting symptoms
  History of the presenting illness
    Symptoms: duration, site and radiation, character, severity, onset, aggravating and relieving factors, associated symptoms, treatment
  Past history
  Social history
  Family history
  Systems review
    Cardiovascular, respiratory, gastrointestinal, hepatobiliary, haematological, genitourinary, musculoskeletal, neurological, endocrine

Cardiovascular history
  Symptoms
    Chest pain (nature, stable or unstable), dyspnoea (exertional, postural, nocturnal), ankle swelling, palpitations, syncope, claudication, fatigue
  Risk factors
    Family history, smoking, hypertension, hypercholesterolaemia, diabetes, obesity, sex and age
  Past history
    Angina, AMI, rheumatic fever, chorea, preeclampsia, investigations
  Treatment
    Drugs, revascularization
  Social history
    Work, exercise tolerance, smoking
  Family history

Respiratory history
  Symptoms
    Cough, sputum, haemoptysis, dyspnoea, wheeze, chest pain, sinusitis, hoarseness, night sweats
  Past history
    Pneumonia, tuberculosis, bronchitis, allergies
  Treatment
    Steroids, bronchodilators, antibiotics
  Social history
    Occupation, hobbies (exposures), smoking, alcohol
  Family history
    Tuberculosis, asthma, emphysema (e.g. cystic fibrosis)

Gastrointestinal history
  Symptoms
    Pain, nausea, vomiting, bleeding, reflux, dysphagia, appetite and weight change, diarrhoea, constipation, mouth ulcers, fever
  Past history
    Peptic ulcer, colitis, carcinoma
  Treatment
    Steroids, NSAIDs, antibiotics, diet
  Social history
    Alcohol, smoking, travel, occupation
  Family history
    Bowel cancer, IBD, coeliac disease, polyposis coli

Hepatobiliary history
  Symptoms
    Jaundice, dark urine, pale stools, fever, pruritus
  Past history
    Jaundice, surgery, hepatitis, transfusion, blood-borne virus risks

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Treatment
Drugs, especially sex steroids and other hepatotoxic drugs
Social history
Alcohol, viral exposure (travel, contacts, sex, occupation, drug use)
Family history
Genetic disease (Wilson’s disease, haemochromatosis…), family contacts

Haematological history
Symptoms
Blood loss, bruising, infection, gland enlargement, bone pain, symptoms of anaemia, paraesthesia, rash
Past history
Gastric surgery, colitis, malabsorption, rheumatoid arthritis, uraemia, transfusion
Treatment
Anticoagulants, immunosuppressants, anticonvulsants

Social history
Diet, alcohol
Family history
Genetic disease (haemophilia, thalassaemia, sickle cell, pernicious anaemia, haemolytic anaemia)

Genitourinary history
Symptoms
Dysuria, frequency, urgency, fever, loin pain, urethral discharge
Renal failure
Anuria, nocturia, polyuria, anorexia, vomiting, fatigue, hiccough, itch, bruising, oedema
Obstruction
Reduced stream, hesitancy, dribbling

Menses
Onset, regularity, last period, dysmenorrhoea, menorrhagia, parity, discharge
Past history
Infections, stones, surgery, proteinuria, nephritis, diabetes, gout, hypertension, preeclampsia
Social history
Analgesic use
Family history
Polycystic kidneys

Musculoskeletal history
Symptoms
Pain, stiffness, swelling, loss of function, nodules, dry eyes or mouth, red eyes, rash, fever, fatigue, weight loss, mucosal ulcers, Raynaud's
Past history
Trauma, infection, IBD
Treatment
Physiotherapy, analgesics, NSAIDs, steroids, DMDs, surgery
Social history
Home arrangements, work, carer, STDs
Family history
Arthritis, gout, psoriasis, IBD

Neurological history
Symptoms
Headache, pain, paraesthesia, anaesthesia, weakness, disturbance of sphincter control, special senses, loss of consciousness, dizziness, ataxia, tremor, speech disturbance
Risk factors for stroke

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James Mitchell (December 24, 2003)
Hypertension, family history, smoking

Past history
Meningitis, head or spinal injury, convulsions, operations, STDs

Treatment
Anticonvulsants, anti-Parkinsonian agents, steroids, antihypertensives

Social history
Alcohol, drugs, work, travel

Family history
Neurological disease, consanguinity

**Endocrine history**

**Symptoms**

Hyperthyroid
- Goitre, heat intolerance, weight loss, increased appetite, palpitations, sweating, anxiety, diarrhoea

Hypothyroid
- Goitre, cold intolerance, lethargy, eyelid swelling, hoarse voice, constipation, coarse skin

Diabetes
- Polyuria, polydipsia, thirst, blurred vision, weakness, infections

Past history
Thyroid surgery, irradiation, diabetic complications, hypertension

Treatment
Iodine, antithyroid drugs, hormone replacement (thyroxine, steroids, insulin...)

Social history
Impotence

Family history
Thyroid disease, diabetes, endocrine adenomatosis
Short case examination

General
   Position
      Patient supine in bed, examined from right side
      Fully exposed (with consideration to modesty)
   Overview
      Facies, skin colour, hair, body habitus, hydration
      HR, BP, temperature

Cardiovascular
   Position
      Supine at 45° on pillows
   General appearance
      Pallor, dyspnoea, fatigue, cachexia
      Characteristic appearance (Marfan's, Down's...)
   Hands
      Clubbing, nailbeds, finger pulps
   Pulse
      Rate, rhythm, character and volume, radiofemoral delay
   Blood pressure, postural effects
   Face
      Sclerae (pallor, jaundice), mitral facies, mouth (arched palate)
   Neck
      Carotid pulse, JVP (level, waveform, Kussmaul's sign, hepatojugular reflex)
   Praecordium
      Inspection: scars, pacemaker, apex beat (5 ICS, 1 cm medial to MCL)
      Palpation: apex beat size and character, left sternal heave, palpable P2, thrill
      Auscultation
         Bell at apex: mitral stenosis or S3
         Diaphragm at apex: Mitral regurgitation or S4
         5L ICS (tricuspid)
         2L ICS (pulmonary)
         2R ICS (aortic)
         Carotids or axilla as indicated
      Sit forward
      Inspiration: right-sided murmurs louder
      Expiration: left-sided murmurs louder (esp. AI)
      Valsalva: HOCM louder or MVP earlier (↓ LV volume)
      Squatting: murmurs except HOCM, MVP louder (↑ LV volume, CO)

Back
   Lung bases, sacral oedema

Abdomen
   Hepatomegaly, splenomegaly, ascites

Legs
   Femoral pulses and auscultation
   Distal pulses and oedema
   Buerger's test: pallor on elevation (poor perfusion), cyanosis on dependence
   DVT, PVD signs
   Varicose veins

Other
   Urinalysis, fundoscopy

Respiratory
   Position
      Sitting
   General
      Sputum mug, cough, rate and depth of respiration, accessory muscle use
Hands
   Colour (cyanosis, tar), clubbing, wasting, tenderness (HPO), pulse, tremor

Chest
   Inspect
      Shape (kyphosis), scars
   Palpate
      Expansion, nodes, fremitus, breasts
   Percuss, auscultate (breath sounds, resonance, adventitious sounds)
   Pemberton’s sign
   Cardiac examination if indicated
      JVP, pulmonary hypertension...

Face
   Horner’s syndrome, jaundice, pallor, cyanosis
   Hoarseness
   Tracheal deviation

Other
   Tests: FET, PEFR, counting tests
   Signs of malignancy elsewhere
   Temperature
Anaesthesia and Connective Tissue Diseases

Ankylosing Spondylitis

Epidemiology

- 0.5 to 4 per 1000
- male:female 10:1
- HLA-B27 related
- onset between 15 and 40

Pathology and Clinical Findings

- progressive inflammatory synovitis
- sacroiliac, intervertebral, costovertebral, hip, shoulder and other joints
- fibrosis and ossification, especially of the annulus fibrosus
- "bamboo spine"
- may impinge spinal cord, nerve roots, vertebral arteries
- aortic root involvement may cause aortic incompetence (3%)
- fibrosis of the AV bundle may cause conduction defects
- pulmonary fibrosis, especially upper lobe, can cause massive haemoptysis
- uveitis in 20-30%

Treatment

- symptomatic treatment with NSAIDs
- no disease-modifying therapy

Anaesthetic Considerations

- may present with
  - orthopaedic procedures (joint replacement, spinal wedge resection)
  - NSAID-associated gastric ulcer disease
  - aortic incompetence, haemoptysis
- spine involvement limits neck mobility
- may be difficult intubation
- high incidence of cervical fractures with minimal trauma
- fixed neck flexion may preclude cryothyroidotomy or tracheostomy
- TMJ involvement limits mouth-opening in 10%
- cricoarytenoid arthritis rarely causes vocal cord fixation
- costovertebral involvement limits chest expansion
  - increased incidence of post-op pulmonary complications
  - external cardiac massage is often ineffective
- neuraxial anaesthesia has an increased failure rate

Can J Anaesth 1996 case series:

- 3 of 13 of spinals and 3 of 3 of epidurals unsuccessful
- case report analysis suggests epidural haematoma is more likely

Anaesthetic Management

- investigation
  - radiological and clinical assessment of cervical spine and airway
  - ECG
- induction
  - likely difficult intubation
  - cervical manipulation may be dangerous
  - awake fibreoptic intubation or avoidance of intubation may be safest
  - diaphragmatic splinting postoperatively is more likely to cause respiratory failure
- regional
  - spinal or epidural is likely to be even more difficult than GA

Rheumatoid Arthritis

Epidemiology

- approx. 1% of population
- female:male 3:1
prevalence increases with age
onset usually between 35 and 50
associated with HLA-DR4 in some populations

Pathology and Clinical Findings
aetiology uncertain
persistent inflammatory synovitis with symmetric polyarthritis
cartilage destruction and bone erosion
pain and stiffness usually worst in the morning
joints affected
most commonly pip, mcp, wrist, knee, elbow
most other synovial joints
axial involvement limited to cervical spine
atlanto-axial subluxation
TMJ and cricoarytenoid joints may be involved
articular swelling may cause nerve entrapment
median, ulnar, radial interosseos br., anterior tibial
extraarticular involvement
rheumatoid nodules in 25%
vasculitis can cause several complications
polyneuropathy, skin necrosis, distal gangrene, visceral infarction, renal impairment
pleuropulmonary nodules and pulmonary fibrosis
pericarditis and pericardial effusion (present in 50% but subclinical)
episcleritis and scleritis (1%)
increased incidence of dysphagia

Treatment
disease-modifying
gold: thrombocytopenia, granulocytopenia, proteinuria
D-penicillamine: thrombocytopenia, granulocytopenia, proteinuria
hydroxychloroquine: retinopathy
symptomatic
simple analgesics
NSAIDs
corticosteroids
immunosuppressants
azathioprine, cyclophosphamide: marrow suppression, ?malignancy
methotrexate: abnormal LFTs
surgery
synovectomy, joint replacement, nerve releases

Anaesthetic Considerations
cervical spine
cervical spine instability in 25%, usually atlanto-axial
most asymptomatic
case reports of spinal cord damage in relaxed patients
occipito-cervical fusion increases the incidence of lower instability
larynx
odontoid migration is associated with laygneal displacement
usually anteriorly and to the left
mouth opening
limited by TMJ involvement
more common in juvenile arthritis
cardiac function
pericardial effusion and valve involvement
pulmonary fibrosis
drug-related complications

Anaesthetic Management
investigation
clinical and x-ray assessment of cervical spine in flexion and extension
investigation for drug complications (FBE, U&E)
RFT if pulmonary involvement
induction
cervical collar if unstable
intubation with fibreoptic scope or laryngeal mask
crycoarytenoid involvement may necessitate a smaller tube

**Progressive Systemic Sclerosis ("Scleroderma"), CREST syndrome**

**Epidemiology**
- female > male
- onset 30-50 years
- variation in severity over time

**Pathology and Clinical Findings**
- increased production of normal collagen
  - cutaneous, gastrointestinal, cardiac, renal, other organs
- possibly due to endothelial damage in small vessels causing an inflammatory response, antinuclear antibodies are usually present
- cutaneous
  - taut, shiny skin tethered to underlying tissue
  - contractures of joints and the mouth may occur (bird-like facies)
- peripheral vascular spasm causes Raynaud’s phenomenon
- gastrointestinal
  - involvement spares the upper third of the oesophagus
  - remainder of the small bowel affected
  - diverticulae in large bowel
  - dysphagia and dysmotility, malabsorption
- pulmonary
  - vascular involvement may cause pulmonary hypertension
  - interstitial fibrosis usually lower 2/3
- cardiac
  - fibrosis of myocardium and conducting system (56%)
  - fibrinous pericarditis, effusion (28%)
- renal
  - cortical infarction and glomerulosclerosis in >50%
  - temperature-sensitive vasospasm
- symmetric polyarthritis
- hypothyroidism due to fibrosis

**Treatment**
- D-penicillamine, aspirin used without evidence
- vasoconstrictors for Raynaud’s (and avoidance of cold)
- symptomatic H₂ antagonists
- antihypertensives may delay renal failure

**Anaesthetic Considerations**
- periphery
  - difficult venous access
  - increased risk of fingertip ischaemia or ulceration
  - telangiectasia may bleed
- airway
  - mouth contractures
  - increased reflux risk
- cardiovascular
  - hypertension, LV failure, arrhythmias
  - cold-induced vasospasm
- pulmonary

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constrictive chest wall, alveolitis
regional
case reports of prolonged sensory loss after local anaesthetic

Anaesthetic Management
investigation
assessment of airway and any contractures
assessment of pulmonary function
CXR may show prominent PA in pulmonary hypertension
pre-op
warming, possible need for CVC or cut-down for IV access
increased risk of distal ischaemia with arterial cannulation
induction
protection from reflux risk

**Systemic Lupus Erythematosis**
Epidemiology
15 to 50 per 100,000
female:male 10:1
onset 20-50 years
racial differences in prevalence
association with multiple autoantibodies and HLA types
Pathology and Clinical Findings
type III immune complex disease
aetiology uncertain
drug-induced variant from hydrallazine or procainamide
abnormal immune activation against self antigens
skin
“butterfly” rash, photosensitivity, vasculitis, ulceration, alopecia
arthritis
painful pip and mcp joints, tenosynovitis
ischaemic necrosis of bone
renal
immune complex deposition causes glomerulosclerosis
may cause renal failure requiring dialysis
neurological
CNS involvement, ?personality changes, psychosis, fitting neuropathies, including cranial nerves
vascular, haematological
thrombotic tendency (Lupus anticoagulant)
binds phospholipids in prothrombin-activator complex
persistent vasculitis predisposes to coronary and peripheral vascular disease
commonly require anticoagulant prophylaxis
may develop anti-VIII or IX antibodies, causing bleeding
thrombocytopenia is common
cardiac
pericarditis, myocarditis are uncommon
endocarditis can involve mitral or aortic valves, causing incompetence
pulmonary
pleural effusions are common, infiltrates are most commonly infective
gastrointestinal
vasculitis may cause gut ischaemia or perforation
eyes
retinal vasculitis, infarcts, blindness
pregnancy
normal fertility, increased spontaneous abortion rate
SLE commonly exacerbated from first trimester
neonates may display complete heart block or discoid lupus rash

**Treatment**
- 30% mortality over 10 years from diagnosis, related to severity
- symptomatic treatment of inflammation with NSAIDs
- rash may respond to hydroxychloroquine
- severe disease responds to high-dose corticosteroids
- immunosuppressants sometimes used: azathioprine, cyclophosphamide, chlorambucil

**Anaesthetic Considerations**
- pulmonary involvement may cause restrictive lung deficit
- thrombotic tendency, but abnormally prolonged APTT with Lupus anticoagulant
- commonly thrombocytopenic
- commonly present during pregnancy

**Anaesthetic Management**
- investigation
  - RFT for pulmonary disease
  - assessment of cardiac involvement and renal function
  - coagulation testing, platelet count
  - test for Lupus anticoagulant

- regional
  - difficult risk-benefit assessment for epidural analgesia in labour