Complications of Injection Drug abuse

Pathology relates to both administration and lifestyle issues

Skin infections at site of needle entry
Cellulitis
Superficial and deep abscesses
Pyomyositis
Necrotising fasciitis

Endocarditis / Tricuspid valve incompetence

CNS infection
Brain abscesses
Subdural empyema
Meningitis

Pulmonary infection
Pneumonia
Empyema
Lung abscess
Septic PE

Hepatitis / HIV / TB

Drug withdrawal

"Trash Limbs" Following arterial injection of debris

Tetanus

Homicide / Suicide / Accidents

Sources
Infectious Complications of Injection Drug Abuse
Emergency Medicine Report (Review)
July 14th 2003
Frazee B. Wang R

Oxford Textbook of Medicine
Volume 3

Cambridge Textbook of A&E

NHSScotland Website

Cellulitis /Abscess

Commenest bacterial complication of IDA
32% prevalence

Risk factors
- Skin Popping
- Needle licking
- Cocaine injection
- Poor skin prep / dirty needles

Common organisms
- *Staph Aureus*
- Strep Sp.
- *Eikenella Corrodens*
- Fusobacterium

Abscesses often lie deep with therefore less fluctuance. ie. often mistaken for cellulitis

Xrays useful as may show;
- FB eg. broken needle
- Tissue gas
- Bony involvement

+/- USS/CT/MRI

Necrotising Soft Tissue Infections (NSTI)

AKA gas gangrene, necrotising fasciitis

Synergistic combination of aerobes and anaerobes infecting muscle and fascial planes associated with systemic toxicity

Clostridium Perfringens is commonest organism
Outbreak associated with *Clostridium Novyi* in 2000

Presentation
- Skin necrosis
- Blisters / bulla
- Crepitus of tissue
- Tense circumferential oedema/cellulitis of an extremity often spreading into the trunk

Investigation
- 20 – 60% ST gas on plain xray
- CT

Treatment
- Fluid resus

Antibiotics (penicillin / metronidazole /clindamycin)
Debridement (find friable necrotic fascia ass with vascular thrombosis)
?Hyperbaric O2 vs wound closure

Mortality in IVDA 10% (21% in non IDA, usually diabetics)

Infective Endocarditis

1-20 per 10,000 IVDA per year
usually skin flora

Common organisms *Staph aureus*
Strep Sp
Enterococcus
Enteric Gm -ves

Also culture –ve eg Haemophillus
Actinobacillus
Eikenella Corrodens

Usually tricuspid valve affected (76%), presents with non specific symptoms; arthralgia, malaise, wt loss, cough, dyspnoea (haemodynamic compromise, murmur, peripheral stigmata less common than in L sided IE)

Complications
- Valve incompetence / obliteration
- Heart failure
- Cardiac abscess
- Purulent pericarditis
- Embolic phenomena Eg. Spinal epidural abscess, Septic PE
- Mortality <10% in R heart IE (2-39% if L heart)

Investigations

Blood culture + in 95% (2-3 separate samples to be taken over time prior to Abx)
CXR Abnormal in 72% Eg, Septic PEs
Effusions
Oedema
Non specific infiltrates
MSU haematuria, proteinuria
ECG Eg. AV block if erosion into conduction system
ECHO 60%-70% sensitive 90% specific (much less in R heart IE)
TOE 85%-95% sensitive 95% specific (much less in R heart IE)

Treatment
Blood culture/ Hospital policy dependent
Eg. flucloxacillin(or vancomycin) plus gentamicin for *Staph Aureus*

Hepatitis / HIV

HCV 70% prevalence in US IDAs (up to 100% after 15+ years of abusing)
HBV 50-90% prevalence (10 % of these HbsAg +)
25% of HIV infection in USA secondary to IDA