

peripheral  
arteriopathies  
& embolism  
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general

- peripheral arterial disease generally refers to the various manifestations of atherosclerosis in the major vessels of the lower limb including thromboembolic complications associated with acute limb ischaemia
- peripheral arterial disease is common & shows a steep increase in incidence with age
- risk factors for atherosclerosis are associated with more severe & progressive disease (particularly in the lower limbs); diabetes tends to be associated with diffuse disease

clinical  
classification

- I. viable
  - not immediately threatened
  - no sensory loss or weakness
  - audible arterial doppler signals
- II. Marginally threatened
  - salvagable if promptly treated
  - minimal sensory loss (toes or none), no weakness
  - often inaudible arterial doppler
- III. Immediately threatened
  - salvagable with immediate revascularisation
  - sensory loss affecting more than the toes with rest pain
  - mild to moderate weakness
  - usually inaudible arterial doppler
- IV. Irreversible
  - major tissue loss and permanent nerve damage inevitable
  - profound sensory loss (anaesthetic)
  - paralysis
  - inaudible arterial doppler

aetiology  
of acute  
limb  
ischaemia

- causes of acute limb ischaemia with pre-existing atherosclerotic disease:
  - (i) thrombosis of a native atherosclerotic artery
  - (ii) thrombosis of arterial bypass graft
  - (iii) embolism from heart, aneurysm or atherosclerotic plaque
  - (iv) thrombosed aneurysm (especially popliteal)
- causes of acute limb ischaemia without pre-existing atherosclerosis:
  - (i) arterial trauma (including iatrogenic)
  - (ii) arterial dissection
  - (iii) arteritis with thrombosis (eg giant cell arteritis)
  - (iv) spontaneous thrombosis in a hypercoagulable state
  - (v) popliteal cyst with thrombosis
  - (vi) vasospasm with thrombosis

clinical  
features

- general:
  - the presence of acute lower limb ischaemia is strongly influenced by two factors:
    - (i) the presence of absence of a preexisting collateral circulation
    - (ii) the aetiology of the occlusion
- history:
  - presence of absence of prior symptoms is important because it may allow differentiation between primary thrombotic occlusion with pre-existing disease & embolic occlusion without
  - patients without pre-existing disease will not have collaterals and will therefore have more severe symptoms
- physical examination:
  - may reveal a classic acutely ischaemic limb which is pale, painful, cold, pulseless, paralysed and insensate
  - the presence of paralysis or paraesthesia indicates a poor prognosis because it is associated with infarction of nerve and muscle tissue

investigation

- patients with a suspected embolic occlusion need radiological investigation to confirm the level of the occlusion. Options include:
  - (i) angiography
  - (ii) duplex ultrasound

treatment

- endovascular treatments include suction embolectomy & local administration of thrombolytics
- in the case of an acute, severely ischaemic limb, surgery is indicated to perform embolectomy or amputation

prognosis

- outcome of peripheral artery embolism is often poor with mortality at 30 days of 15% and amputation in 15-30% of patients