**general**
- within the vertebral column a thin layer of fat and blood vessels separate the dura from the vertebral column making the epidural space a more common site of infection than the subdural space
- once an infection develops in the epidural space it may dissect for a considerable distance

**clinical manifestations:**
- usually begins with localised spinal pain
- higher functions are generally intact
- symptoms usually progress through four clinical phases of spinal ache, nerve root pain, radicular weakness and paralysis
- back pain with fever, focal tenderness & sensory & motor deficits strongly suggests this disease

**aetiology**
- S. aureus accounts for 2/3rds of epidural abscesses
- 80% of spinal epidural abscesses is community acquired while 20% of cases occur after spinal instrumentation (surgery or epidural); in the latter population causative organisms may include nosocomial infections such as MRSA or pseudomonas
- a source of haematogenous seeding may be identified in 75% of patients

**risk factors for epidural abscess include:**
- (i) spinal instrumentation
- (ii) iv drug use
- (iii) diabetes mellitus
- (iv) trauma
- (v) dialysis

**differential diagnosis:**
- degenerative disease of metastatic tumour may mimic epidural abscess (especially if fever is present); MRI will distinguish these

**investigation:**
- diagnosis hinges on visualisation of a collection in the epidural space
- MRI is the diagnostic modality of choice because it defines cord compression & the presence and extent of abscess, identifies drainable paraspinal collections & detects concomitant vertebral osteomyelitis
- CT scanning can be performed in MRI is not available
- treatment should be based on the Gram stain and culture results of operative material.
- Initial empirical therapy should be commenced prior to surgery. Antibiotic guidelines recommend:
  - flucloxacillin 2 g (child: 50 mg/kg up to 2 g) IV, 6-hourly
  - gentamicin 4 to 6 mg/kg (child <10 years: 7.5 mg/kg; ≥10 years: 6 mg/kg) IV, daily (adjust dose for renal function, see Monitoring and dosing of aminoglycosides).
- For patients with penicillin allergy, substitution of vancomycin for flucloxacillin is recommended
- antibiotics alone are inadequate if there is evidence of nerve compression & neurosurgical drainage remains the mainstay of treatment; if nerve compression is present, decompression within 24 hours offers the best chance of recovery
- non surgical management might be considered if a pathogen is identified by peripheral blood cultures or by needle biopsy if there is no progression of neurological findings on frequent examination, if pain improves, white cell count declines & fever settles with treatment