Hip Pain and Cauda Equina Syndrome

Abstract:
RG Kavanagh, NG Burke, C Green, K Synnott
Department of Orthopaedic Surgery, Mater Misericordiae University Hospital, Dublin 7

Abstract
Acute cauda equina syndrome secondary to a spinal epidural abscess as a result of a psoas abscess is very uncommon. We report the case of a 64-year old with a 6-day history of left hip pain, which progressively worsened until she presented to the emergency department with systemic infective symptoms and classical acute cauda equina syndrome. A good clinical outcome was achieved by urgent posterior decompression, followed by CT-guided drainage of the psoas abscess and appropriate antibiotic treatment.

Case Report
A 64-year old woman presented with sudden onset urinary retention and left lower limb weakness. She complained of a 6-day history of left groin pain, with a 2-day history of discomfort in her left flank. She had no urinary or faecal incontinence. Systemically, she complained of general malaise and occasional fever. She had no significant past medical or drug history. On physical examination she had left flank and midline lower lumbar tenderness. Neurological examination revealed loss of power in her left lower limb (Grade 3/5 in L4 and L5). Paraesthesia in these regions was also noted. Her right limb had normal power and sensation. Lower limb reflexes were present and normal. Perianal sensation was present but decreased, and anal tone was intact and normal. A distended bladder was palpable and on insertion of a catheter a residual of 1400mls was present.

Laboratory findings revealed elevated inflammatory markers (ESR 96mm/hr, CRP 221mg/L), a normal haemoglobin (11.3g/dl) and raised white cell count (16.3x109/L). Blood cultures were taken. An urgent MRI of the lumbar spine was performed and showed a large left psoas mass communicating with the epidural space at L4/L5 and causing compression of the cord (Figures 1 and 2). The patient underwent emergency posterior lumbar decompression and CT-guided drainage of the abscess. Pus from the spinal canal cultured staphylococcus aureus. She was treated aggressively with IV flucloxacillin, benzylpenicillin and fusidic acid. This was guided by the culture and sensitivities from the blood cultures and intra-operative samples taken. Postoperatively her neurological deficits fully resolved, as did the psoas abscess following long-term IV antimicrobial treatment.

Discussion
Acute cauda equina syndrome is a surgical emergency, which usually presents with buttock and lower extremity pain as well as bowel/bladder dysfunction, saddle anaesthesia, and lower extremity motor and sensory dysfunction. Causes include trauma, lumbar disc herniation, spinal stenosis, spinal neoplasms, inflammatory conditions or iatrogenic injury. Acute cauda equina syndrome due to an epidural abscess is extremely rare, but several cases have been reported. 1,2 This patient initially complained of left hip pain prior to the lumbar back pain, lower limb weakness or urinary symptoms and so the authors believe this is a unique case of a psoas abscess which progressed into the epidural space and eventually resulted in acute cauda equina syndrome. A psoas abscess is a rare retroperitoneal infection, with 40% occurring in those older than 40 years. Risk factors include diabetes mellitus, alcoholism,
immunosuppressive therapy or intravenous drug abuse. It is associated with a mortality rate of approximately 20%. Staphylococcus aureus is the usual cause of a primary psoas abscess; other pathogens include serrata marcescens, pseudomonas aeruginosaa, haemophilus aphrophilus and proteus mirabilis. Enteric bacteria are usually the cause of a secondary psoas abscess.

The mainstay of treatment is drainage and appropriate antibiotic therapy. Spinal epidural abscesses are well recognised but are uncommon, with a reported frequency of 0.23 per 10000 admissions annually. It usually occurs in patients between 30 and 60 years of age. Risk factors are similar to those for psoas abscesses, with staphylococcus aureus the most common organism. Streptococci, pseudomonas, enteric gram-negative bacilli, dental flora and fungi have also been reported. MRI is essential to fully evaluate the extent of a spinal epidural abscess, with advantages over CT myelography. Age <60 years old, early intervention, lower limb neurology <72hrs, incontinence, and <50% compression of the thecal sac have been shown to affect outcome. The development of acute cauda equina syndrome from an epidural/psoas abscess is very rare. A high index of suspicion is required for a patient presenting with systemic infective symptoms along with the classical symptoms of acute cauda equina syndrome. This case highlights that early diagnosis and surgical intervention, along with carefully tailored antibiotic treatment, are essential for a good clinical outcome.

Correspondence: RG Kavanagh
Department of Orthopaedic Surgery, Mater Misericordiae University Hospital, Dublin 7
Email: richkavanagh@rcsi.ie

References