Meningitis and spinal subdural empyema as a complication of sinusitis

Spinal subdural empyema is a rare event. We describe the case of a young man who developed sinusitis while recovering from a routine operation followed by a dramatic meningitic illness with formation of a spinal subdural empyema. A previously fit 23 year old man had an elective left temporal mandibular joint meniscectomy for Cosman's syndrome. Two days later he developed a mild headache with a slightly purulent nasal discharge. Within the following 24 hours his headache became bilateral and more severe. He developed visual hallucinations though he remained oriented and there was marked neck stiffness, severe low back pain with very limited straight leg raising and a high fever. There was no previous history of head or immunisation suppression. His lumbar puncture showed turbid green cerebrospinal fluid (CSF) with 284 polymorphs and 134 lymphocytes with a CSF protein of 1-5 g/L per litre and a low CSF glucose.

Plain skull radiographs showed thickening of the right maxillary sinus with a small gas bubble in the supra-sella cistern. A CT scan confirmed these findings and showed a completely opacified right maxillary sinus. Cultures from his CSF grew Streptococcus milleri (a micro-aerophilic haemolytic streptococcus) and a bacteroides of the rododons type. Both these organisms are compatible with an origin in the upper respiratory tract. Ampicillin, metronidazole and gentamicin were given intravenously. His sinuses were drained and a considerable amount of green pus was obtained. His temperature gradually settled throughout this period though he remained confused and his tendon jerks in both lower limbs became depressed. A cervical myelogram was performed and this showed somewhat irregular subarachnoid space in the lower cervical region and a complete block at the level of D7. A subsequent CT scan of the same region confirmed a posteriorly situated mass causing forward displacement of the cord but no bony erosion. He had a laminectomy from D7 to D10. A subdural mass with granulation tissue was identified and suitable decompressive measures were undertaken. Following this he made a slow but progressive recovery although he was hospitalised with low back pain and was discharged home after completion of a month of antibiotic therapy.

The association between sinusitis and intracranial empyema is well established. Spinal subdural empyema is a much rarer occurrence and has not been previously described as a complication of sinusitis.

In a 1973 review of the literature only ten cases were described. Five of these patients died, three were left with significant neurological deficits and only two fully recovered. Prompt surgical drainage and antibiotics have obviously improved prognosis, and more recently eight additional cases have been reported. Seven of these patients made full or fair recoveries.

Typically, spinal subdural empyema presents with a fever, backache, and radicular symptoms and signs. There have been claims that the absence of percussion tenderness helps to distinguish it from an epidural collection of pus which is usually associated with vertebral osteomyelitis or bac- teremia. The diagnosis has recently been facilitated with the introduction of spinal CT.

In our patient no clear collection of intracranial subdural pus was identified with a CT brain scan with contrast though this may appear normal in the early stages.

The striking feature in this case is the finding of an extensive spinal empyema. It remains unclear whether it was formed by haematogenous spread from an intracranial or paranasal source despite the relative avascularity of the subdural space. The empyema may have cleared by resection through the archnoid in the presence of meningitis. Seeding of the subdural space by lumbar puncture has been described as a possible cause.

Paranasal sinus pathology should be excluded as a cause of pyogenic meningitis even in the absence of a clear history of sinusitis, and should now be considered as a possible cause of spinal subdural empyema.

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Familial cerebellar ataxia and possible cosegregation with an inversion in chromosome 4

We have recently encountered a family which may shed light on the gene locus of an inherited form of late onset cerebellar ataxia. The family pedigree (fig) reveals that three of seven siblings have or have had late onset cerebellar ataxia. Case II2 died aged 65 years. From the age of 55 years relatives noticed that she had a progressively unsteady gait, and slurred speech. None of her medical records can be traced. Case II4 died aged 74 years. She was first referred to a neurologist at the age of 60 years with a one year history of unsteady gait and dysarthria, which showed slow but steady deterioration culminating in marked disability. Relevant findings on examination at referral included nystagmus on lateral gaze, normal optic discs, and normal tone, power, tendon reflexes and sensations. The empyema may have derived from extension of the sinus infection, though the precise nature was not specified. Review of her medical records and personal contact with all known locally cited...
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