

Streptococcus Mitis Causing Retroclival and Pan-Spinal Subdural Empyema: A Rare Case Report and Review of the Literature

Salman Abbasifard MD; Sajid S. Suriya MD; syed quadri; Mona Rezaei MD; Martin M. Mortazavi MD



California Institute of Neuroscience

Introduction

Subdural empyema can present as Spinal Subdural Empyema or Cranial Subdural Empyema. Streptococcus mitis, part of normal flora of the oropharynx, is known to cause of meningitis, especially in population of older age, alcoholism, and poor oral hygiene. We report the very first case of Streptococcus mitis causing retroclival and spinal empyema together.

Methods

A review of the English literature of the Medline database was performed with key words including: Subdural Empeyema, Retroclival, Streptococcus mitis. No similar report related to the type of micro-organisms and region of infection was found in database.

Results

A 55 year old right-handed Caucasian female, was admitted to hospital with 2 weeks history of back pain. She developed meningitis one week after admission. Patient was started on broad-spectrum antibiotics. MRI showed extensive subdural abscess at T2 – L5 with significant cord compression. Patient underwent emergent T2 - L5 laminectomies with evacuation of extensive subdural abscess. S. mitis grew in the cultures and intravenous antibiotic regimen was tailored based on the culture results. Further work-up showed dental abscesses. Five weeks later, she returned with severe neck stiffness, weakness in all extremities, and reported 10 days of severe radicular left arm pain. MRI showed subdural abscess throughout the entire cervical cord and a large retroclival empyema with significant edema of the brain stem and cervical spinal cord. She was taken for emergent right retrosigmoid craniectomy and C1 to T1 laminectomies with evacuation of the subdural empyema. After a few weeks of improvement in hospital, she was transferred to rehabilitation facility with residual paraplegia, bilateral upper extremity weakness, mild left facial palsy and hoarseness.

Conclusions

Causation of spinal subdural empyema with Streptococcus mitis is rare and in particular, retroclival abscess is unreported. Treatment consists of focused intravenous antibiotic therapy and emergent decompression of the brain and spinal cord.

Learning Objectives

- Management of craniospinal empyema includes a combination of emergent surgical decompression and intravenous antibiotic therapy.
- Stretococcus Mitis can cause CNS-empyema.

References

1-Pompucci A, De Bonis P,

Sabatino G, Federico G, Moschini M, Anile C, Mangiola A. Craniospinal subdural empyema due to S. intermedius: a case report. J Neuroimaging. 2007 Oct;17(4):358-60. 2-Jim KK, Brouwer MC, van der Ende A, van de Beek D. Subdural empyema in bacterial meningitis. Neurology. 2012 Nov 20;79(21):2133-9. 3-Dakkak M, Cullinane WR Jr, Ramoutar VR. Subdural Empyema Complicating Bacterial Meningitis: A Challenging Diagnosis in a Patient with Polysubstance Abuse. Case Rep Med. 2015; 2015:931819. 4-Wu A S, Griebel R W, Meguro K, Fourney D R. Spinal subdural empyema after a dural tear. Neurosurg Focus 2004; 17(6)1-4 5-Levy M L, Wieder B H, Schneider J, Zee C S, Weiss M H. Subdural empyema of the cervical spine: clinicopathological correlates and magnetic resonance. J Neurosurg 1993; 79: 929–935 6-Kraeutler MJ, Bozzay JD, Walker MP, John K. Spinal subdural abscess following epidural steroid injection. J Neurosurg Spine. 2015 Jan;22(1):90-3.

Gadolinium-contrasted, T1weighted sagittal (A), axial (B), and axial (C) FLAIR (D) Cervical T1-weighted sagittal images

