



Spinal Epidural Abscess

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Introduction

Spinal epidural abscess (SEA) is an uncommon clinico-pathological entity associated with high morbidity. We intend to share our experience regarding clinical outcome of SEA cases treated with a combined treatment paradigm comprised of medical therapy and surgical decompression. Incidence of sea is assumed to be 0.2-2 cases per 10,000 hospital admissions. Its incidence is increasing steadily due to various factors like aging US population, use of advanced imaging technologies, increasing use of spinal analgesic procedures for pain management, IV drug abuse and incidence of chronic diseases like diabetes mellitus.

Methods

Prospectively maintained neurosurgery department database was searched for cases of SEA during year 2007 to 2011, and 20 patients selected randomly, were studied retrospectively.

Results

10 (50%) patients who presented with only back pain +/- fever, 7 (70%) had excellent outcomes (complete/near complete recovery), 2 (20%) had fair outcomes (partial recovery) and 1 (10%) had poor outcome (no recovery/worsened) at discharge. From 10 (50%) patients who presented with a neurological deficit, 3 (30%) had excellent outcomes, 6 (60%) had fair outcomes and 1 (10%) had poor outcome. Among the 10 patients who presented with neuro-deficit, 8 (80%) patients had this deficit present for >24 hours of duration before treatment, from which, only 2 (25%) patients had excellent outcomes, whereas 5 (62.5%) had fair and 1 (12.5%) had poor outcomes. 2 (20%) patients with neuro-deficit present <24 hours before treatment, 1 (50%) had excellent outcome and 1 (50%) had poor outcomes. 9 (45%) patients made a follow-up visit with mean follow up time 6.6 months (range: 1-30 months). 5 (55.6%) of these 9 patients were without neurological deficit and showed favorable score on mRS (mRS 1/2/3), whereas 4 (44.5%) patients had neuro-deficit, 3 (33.4%) showed favorable mRS score and 1 (11.1%) showed unfavorable mRS (mRS 4/5) score. *Staphylococcus aureus* was the most common bacteria isolated from cultures, MRSA being the second one. Thoraco-lumbar was the most common spinal segment involved. MRI proved to be 100% sensitive in diagnosis or suggesting a SEA.

Conclusions

It is evident that irreversible neurological damage was strongly associated with presence of neuro-deficit at initial presentation and with diagnostic delay of more than 24 hours in SEA patients presenting with neurological deficit. Outcomes for patients presenting with only back pain and/or fever were relatively better. We suggest an aggressive approach with combined medical and emergent surgical decompression in patients who present with a neurological deficit. For the patients presenting with only back pain +/- fever without any neurological deficit, there is still some dilemma whether to consider emergent decompression or to wait for clinical improvement while the patient is initially solely on antibiotic therapy and offer delayed decompression (after 24 hours) or decompression only on neurological worsening. A large-scale clinical research is necessary to come to the point and form a universal treatment paradigm for obtaining best results in such patients. We are currently working on this and the results shall be very helpful to set up the treatment guidelines in terms of emergent versus delayed decompression in SEA patients who present with only back pain +/- fever.

Learning Objectives

By the conclusion of this session, participants will be able to discuss:- 1) clinical outcomes of patients with spinal epidural abscess 2) importance of early diagnosis and prompt intervention of such patients 3) discuss the dilemma of whether to consider emergent decompression or to wait for clinical improvement and then consider delayed decompression while the patient with only back pain +/- fever (without a neuro-deficit) is on medical therapy.

MRI of cervical spine of a 41 years old male patient with a history of IV drug abuse shows SEA at C5-C6 levels.



The patient presented with back pain and generalized upper extremity weakness. He was treated with combined medical therapy and surgical decompression. The patient showed excellent recovery at discharge with 5/5 strength in upper extremities.