Spinal epidural abscess outcome

A spinal epidural abscess is a rare but serious condition.

The outcome of a spinal epidural abscess can vary depending on the severity of the infection and the promptness of treatment. If the abscess is diagnosed and treated early, the prognosis is generally good and most patients will recover fully with proper medical care. However, if the abscess is not diagnosed or treated in a timely manner, it can lead to permanent damage to the spinal cord and nerve roots, resulting in long-term neurological deficits such as weakness, numbness, and difficulty walking. In severe cases, the infection can spread to the brain and cause life-threatening complications such as meningitis or septicemia. In these cases, the mortality rate is high.

From 34 patients in a hospital in Portland, 7 (20%) died or were discharged with plegia during the study period. Those who died or were discharged with plegia (n = 7) had shorter mean time-to-imaging order (20.8 h versus 29.2 h). Patients with a history of intravenous drug use had a longer mean time-to-imaging order (30.2 h versus 23.7 h) as compared to those without intravenous drug use. Patients who died or acquired plegia had longer times from imaging completed to final imaging read (20.9 h versus 7.1 h), but shorter times from final imaging read to surgical intervention among patients who received surgery (4.9 h versus 46.2 h). Only three (42.9%) of the seven patients who died or acquired plegia presented with the three-symptom of spinal epidural abscess clinical features classic triad of fever, neurologic symptoms, and neck or back pain. [1].

Fatal in 4–31% [2] (the higher end of the range tends to be in older patients and in those paralyzed before surgery [3]). Patients with severe neurologic deficits rarely improve, even with surgical intervention within 6–12 hrs of the onset of paralysis, although a few series have shown a chance for some recovery with treatment within 36 hrs of paralysis [4] [5].

Reversal of paralysis of caudal spinal cord segments if present for more than a few hours is rare (exception: Pott’s disease has 50% return). Mortality is usually due to the original focus of infection or as a complication of residual paraplegia (e.g. pulmonary embolism).

The spinal epidural abscess, although uncommon, can cause permanent neurologic dysfunction and fatality if not treated immediately.

In most such cases, a spinal epidural abscess is not suspected initially. The clinician should thus have a high index of suspicion for spinal epidural abscess in order to ensure an early and accurate diagnosis.

In clinical practice, a diagnosis of SEA is often not considered, particularly in the early stages of the disease when neurological symptoms are not apparent. Knowledge of persons at risk, clinical features, and the required diagnostic procedures may decrease the number of initially misdiagnosed cases [6].

Complications

The outcome of SEA is largely influenced by the severity and duration of neurological deficits prior to surgery, stressing the importance of early recognition.

If untreated, an expanding suppurative infection in the spinal epidural space impinges on the spinal cord, producing sensory symptoms and signs, motor dysfunction, and, ultimately, paralysis and death. Intervention early in the course of the disease undoubtedly improves the outcome. Frequently, diagnosis is understandably delayed because the initial presentation may be only nonspecific back pain. One half of cases are estimated to be misdiagnosed or have a delayed diagnosis [7].

1)
King C, Fisher C, Brown PCM, Priest KC, Tanski M, Sullivan P. Time-to-completed-imaging, survival and function in patients with spinal epidural abscess: Description of a series of 34 patients, 2015-2018. BMC Health Serv Res. 2020 Feb 14;20(1):119. doi: 10.1186/s12913-020-4973-5. PubMed PMID: 32059715; PubMed Central PMCID: PMC7023770.
2)
Pereira CE, Lynch JC. Spinal epidural abscess: an analysis of 24 cases. Surg Neurol. 2005; 63:S26– S29
3)
Hlavin ML, Kaminski HJ, Ross JS, et al. Spinal Epidural Abscess: A Ten-Year Perspective. Neurosurgery. 1990; 27:177–184
4)
Heusner AP. Nontuberculous Spinal Epidural Infections. N Engl J Med. 1948; 239:845–854
5)
Curling OD, Gower DJ, McWhorter JM. Changing Concepts in Spinal Epidural Abscess: A Report of 29 Cases. Neurosurgery. 1990; 27:185–192
6)
Sendi P, Bregenzer T, Zimmerli W. Spinal epidural abscess in clinical practice. QJM. 2008 Jan;101(1):1-12. Epub 2007 Nov 3. Review. PubMed PMID: 17982180.
7)
Darouiche RO. Spinal epidural abscess. N Engl J Med. Nov 9 2006;355(19):2012-20.