Postoperative spinal epidural hematoma

Symptomatic postoperative spinal epidural hematoma (SEH) is a serious complication of lumbar spine surgery.

Types

see Delayed postoperative spinal epidural hematoma.

Epidemiology

Epidural hematomas occur in approximately 0.10%-2.9% of all spine surgeries.\(^1\)\(^2\)\(^3\)\(^4\).

Compressive SEH after spinal surgery is rare, only 41 cases having been reported aside from the series of Deburge et al. In the literature, the frequency is around 1 to 2 for 1000 operations for some authors, as opposed to 3 p. 100 and 6 p. 100 found by two other groups. The 1 p. 100 of the present series is close to the latter values. Nonetheless, it is probably important to take the type of surgery into account, as shown by the current series in which SEH occurred after 5.9 p. 100 of the operations for metastasis, but only once out of 304 anterior cervical interventions. To reduce the risk as much as possible, it is important to be aware of the factors that may contribute to this complication. Once SEH has occurred, the only modifiable prognostic factor appears to be the delay before reintervention.\(^5\)

Etiology

Despite the fact that multiple large studies have been performed attempting to identify risk factors for this complication, there is still significant debate about the effect of subfascial drains, postoperative anticoagulation, and antiplatelet medication on the incidence of postoperative hematoma.\(^6\).

Kou et al. identified multilevel procedures and the presence of preoperative coagulopathy as possible significant risk factors.\(^7\).

Awad et al. divided potential risk factors into two categories, preoperative and intraoperative factors. Significant preoperative risk factors included nonsteroidal antiinflammatory use and patient age more than 60 years; significant intraoperative risk factors included multiple-level operation, anemia, and large blood loss.\(^8\).

Sokolowski et al. reported that age greater than 60 years, multilevel procedures, and preoperative international normalized ratio (INR) correlated with postoperative hematoma volumes. Even though our patient indeed had several recognized risk factors—age more than 60 years, use of analgesic agents, and multilevel surgery—he had no neurological symptoms during his hospitalization. This would imply the nonexistence of an epidural hematoma during the early postoperative period.\(^9\).

Parthibian and Majeed described one such case which developed following an episode of violent twisting movement.\(^10\).

Clinical features

Symptomatic hematoma usually starts with a stabbing pain at the operative site, followed by paresthesia, radicular pain, and neurologic palsy.\(^11\).

Several reports of cauda equina syndrome.\(^12\)\(^13\)\(^14\)\(^15\)\(^16\).
Symptomatic spinal epidural hematoma usually presents with severe back and leg pain. \(^{17}^{18}\)

**Outcome**

This uncommon complication may result in devastating neurological sequelae, including lower limb weakness. If they are not quickly identified and treated they can lead to permanent neurological deficits.

**Case reports**

Kamoda et al. present a rare case of delayed onset of epidural hematoma after lumbar surgery whose only presenting symptom was vesicorectal disturbance. A 68-year-old man with degenerative spinal stenosis underwent lumbar decompression and instrumented posterolateral spine fusion. The day after his discharge following an unremarkable postoperative course, he presented to the emergency room complaining of difficulty in urination. An MRI revealed an epidural fluid collection causing compression of the thecal sac. The fluid was evacuated, revealing a postoperative hematoma. After removal of the hematoma, his symptoms disappeared immediately, and his urinary function completely recovered. Most reports have characterized postoperative epidural hematoma as occurring early after operation and accompanied with neurological deficits. But it can happen even two weeks after spinal surgery with no pain. Surgeons thus may need to follow up patients for at least a few weeks because some complications, such as epidural hematomas, could take that long to manifest themselves. \(^{19}\)


Parthiban CJ, Majeed SA. Delayed spinal extradural hematoma following thoracic spine surgery and resulting in paraplegia: a case report. Journal of Medical Case Reports. 2008;2, article 141


http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3773434/