Detection and Management of a Spontaneous Epidural Hematoma in an 11 Month-old Child

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Summary: A healthy 11 month-old boy with a spontaneous dorsal epidural hematoma. To our knowledge, this is only the second documented case in a child less than one year old and the first in the Anesthesiology literature.

Case Report:

A previously healthy 11 month-old male presented to the emergency room with a one week history of low-grade fever and progressive LE weakness losing the ability to cruise and stand.

During MRI of the spine, the anesthesiologist recognized a C7 to T6 epidural hematoma with cord compression and called for a Neurosurgery consult and an operating room.

The patient was transferred directly to the OR following the scan where posterior laminectomy and hematoma evacuation was performed. MAP was maintained at 70mm Hg through hydration and low dose phenylephrine infusion.

Over the next few weeks, strength in his trunk improved and the patient was discharged home still with LE weakness. As of this writing, no cause for the epidural hematoma has been found.

Discussion:

First described by Blauby in 1808, spontaneous spinal epidural hematoma is a rare condition, especially within the pediatric population with ventral hematomas less common than dorsal. SSEH presents with back pain, motor and sensory loss. Treatment is surgical decompression and evacuation. However, the inability to verbally communicate in the young pediatric patient and nonspecific signs delays definitive treatment. Complete recovery in older children has been documented.

Intraoperative management requires maintenance of spinal cord perfusion pressure. SCPP is equal to MAP minus the intraspinal pressure (ISP). In spinal cord injury (SCI), the primary insult can be a result of multiple causes including laceration or compression while secondary ischemia causes infarction of the spinal cord. In this case, an epidural hematoma compressed the spinal cord, reducing SCPP from increased ISP.

• SSEH is a rare event with potential for good outcome.
• Discuss spinal cord perfusion with Neurosurgery as no pediatric guidelines exist.
• Anesthesiologists have experience across various disciplines to initiate and facilitate treatment.
• In this case anesthesiologists minimized time to definitive treatment preventing more harmful injuries as per our neurosurgical colleagues.

References:


The 2012 Guidelines for the Management of Acute Cervical Spine and Spinal Cord Injuries recommend a MAP between 85 and 90mmHg in the first 7 days which may improve neurologic outcome. However, evidence supporting these recommendations is limited and are based on studies with Class III medical evidence. No guidelines for blood pressure management are available for pediatric SCI.