51. NON-SURGICAL TREATMENT OF EPIDURAL HEMATOMA

Otsu, I.; Merrill, D. Anesthesiology, Virginia Mason Clinic, Seattle

Epidural hematoma is a rare complication of epidural instrumentation most often reported in patients with blood coagulation abnormalities or with peri-operative anticoagulation. The combination of neuraxial block with intra-operative IV heparin has been considered safe practice. When epidural hematoma occurs, recommended treatment is early surgical decompression of the spinal cord.

We report a case of epidural hematoma in a patient who was treated without surgery.

Case Report

A 75 y/o female was admitted to the hospital for aorto-mesenteric arterial bypass. PMH included HTN well-controlled with Metoprolol, a TIA, hypothyroidism, chronic low back pain. In the past year she had received three epidural steroid injections for low back pain.

Surgery was performed under combined general and epidural anesthesia. Epidural placement was at T 8/9, atraumatic and without paresthesia. After epidural anesthesia was confirmed, general anesthesia was induced. Lidocaine 1.5% was administered epidurally. IV heparin was given twice (total dose 6,000 IU) with the first dose 2.5 hours after placement of the epidural. Surgery was uneventful.

In PACU, blood was freely aspirated from the catheter. It was pulled back 1 cm and blood was still aspirated. The epidural catheter was capped and not used. IV PCA was used.

POD # 1, the patient complained of back pain. She was not able to differentiate it in nature or location from her chronic back pain. No motor or sensory deficit was found. MRI scan revealed an epidural hematoma from T8 to L1 with compression of the spinal cord. Neurosurgical consultation resulted in a decision to monitor for neurologic changes. With an INR of 1.4, the epidural catheter was removed 23 hours post-op. Back pain persisted, but never a neurological deficit. She was discharged from the hospital on post-operative day 7. Three weeks post-op she remained neurologically intact.

Discussion

Epidural hematoma is a rare complication of epidural needle and catheter placement that may result in devastating neurological complications. Risk factors for developing hematoma during central nervous blockade include impaired intrinsic coagulation, concomitant use of anticoagulants, multiple or difficult needle placement, traumatic needle placement, advanced age, and anatomic abnormalities of the spinal cord or the vertebral column. Rarely, epidural hematoma may occur spontaneously.

Symptoms of an acute epidural hematoma include back pain and sensory or motor deficit which outlasts the expected duration of any drug-induced central neuraxial anesthesia.[2] The diagnosis is best confirmed by MRI scan.

The accepted treatment of choice in this setting is emergency decompressive laminectomy with evacuation of hematoma.[2] Recovery is directly related to speed of recognition and surgical decompression. Although complete recovery of neurologic function is possible if surgery is performed within 8 hours of onset of paraplegia, most epidural hematomas result in only partial neurological recovery even after surgery. Neurologic recovery following surgical treatment also depends upon the severity of neurological deficits present at operation. If untreated, results are very poor. In one series, among 13 patients who received no operation, only one person had "good" neurologic recovery.[2]

This was a patient who was at risk for developing epidural hematoma due to advanced age and intra-operative heparin use. Although epidural hematoma was detected, no neurological deficits ever ensued and surgery was not performed.

Our case report suggests that there may be many more patients who develop unrecognized epidural hematoma after neuraxial techniques with intra-operative heparin use. Our patient's only symptom (back pain) was non-specific and its importance was less certain due to the presence of back pain pre-operatively. Back pain after any surgery is often present and can be attributed to musculoskeletal responses to the OR table or positioning as well as to uncomplicated neuraxial anesthesia. Had we not planned to use her epidural catheter post-operatively, we would not have aspirated blood and probably not have recognized this event.

Careful neurological monitoring is the recommended method for early detection of epidural hematoma.[4,7] Although back pain is often quoted as the sine qua non of diagnosis and it is stated that MRI is indicated for its evaluation, it would not be financially feasible to scan all patients with back pain after epidural anesthesia. In fact, should we get MRI only if there are neurological symptoms?

This case suggests that an MRI may not be appropriate in the absence of neurologic findings (i.e., for back pain only). If surgery is not to be the outcome of discovery of such an epidural hematoma, then MRI is not indicated. A prospective study is needed to determine how many patients who receive an epidural, then IV heparin, and then complain only of back pain have an epidural hematoma. If it were established that epidural hematoma without neurologic deficit is a common (or at least not rare) event in this population, then MRI scan logically should be reserved for only those patients with neurologic deficit.

1 ASRA: Neuraxial Anesthesia and Anticoagulation Consensus Statements, 1998

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