

Post lumbar puncture spinal hematoma

[Lumbar puncture](#) is a useful diagnostic and treatment tool. Although serious events are seldom, they can be detrimental. A precaution not to underestimate such events in practicing lumbar, especially in patients with suboptimum [coagulation](#) state. Image-guided procedure can be useful and should be considered in appropriately selected patients ¹⁾.

In a Danish [cohort](#) study, risk of [spinal hematoma](#) following [lumbar puncture](#) was 0.20% among patients without [coagulopathy](#) and 0.23% among those with [coagulopathy](#). Although these findings may inform decision-making about lumbar puncture by describing rates in this sample, the observed rates may reflect [bias](#) due to [physicians](#) selecting relatively low-risk patients for lumbar puncture ²⁾.

It is estimated that approximately 4% of symptomatic spinal hematomas are related to traumatic LP. They are commonly located inclusively with the [epidural space](#) in 75% of the cases, whereas subarachnoid hemorrhage and [spinal subdural hematoma](#) can be found in 15.7% and 4.1%, respectively. Multi-compartmental spinal hematomas are rare and thought to present in 0.33% ³⁾.

In clinical practice, few carry out postprocedural investigation for spinal hematoma unless the patient reports sensory or motor changes after the procedure. In a meta-analysis, approximately 85% of symptomatic spinal hematomas required surgical intervention ⁴⁾

Surgery is indicated for symptomatic patients with reported complete neurological recovery in almost 40%. The timing of surgery is vital and associated with improved neurological outcome when done in less than 36 hours ⁵⁾.

Nevertheless, symptomatic spinal hematoma is a critical condition and we emphasize that surgical intervention should be considered at a low threshold for urgent decompression to optimize overall clinical outcome. Coagulopathy is an important risk factor that should not be underestimated in planning for LP. The presence of pre-existing coagulopathy was found to be a significant poor prognostic factor regardless of surgical intervention. Therefore, an early investigation with spinal MRI should be obtained to rule out an evolving spinal hematoma. Mortality was reported high in patients with compressive cervical spinal epidural hematomas and cardiovascular disease ⁶⁾.

Case reports

A case for a patient with Burkitt lymphoma who presented with mild neuroaxial symptoms. An urgent cerebrospinal fluid sample was required which was taken after correcting his platelets count to $53.4 \times$

109/L. He developed a massive multi-compartmental thoracolumbar hematoma with acute cauda equine syndrome requiring surgical intervention. Despite aggressive management, he remained permanently paraplegic with functional status that negatively affected his overall outcome ⁷⁾.

References

1) ⁷⁾

Al Jishi A, Murty N. Massive lumbar spine hematoma post-spinal tap. Surg Neurol Int. 2017 Dec 6;8:293. doi: 10.4103/sni.sni_351_17. PMID: 29285409; PMCID: PMC5735427.

2)

Bodilsen J, Mariager T, Vestergaard HH, Christiansen MH, Kunwald M, Lüttichau HR, Kristensen BT, Bjarkam CR, Nielsen H. Association of Lumbar Puncture With Spinal Hematoma in Patients With and Without Coagulopathy. JAMA. 2020 Oct 13;324(14):1419-1428. doi: 10.1001/jama.2020.14895. PMID: 33048155.

3)

Groen RJ, van Alphen HA. Operative treatment of spontaneous spinal epidural hematomas: a study of the factors determining postoperative outcome. Neurosurgery. 1996 Sep;39(3):494-508; discussion 508-9. doi: 10.1097/00006123-199609000-00012. PMID: 8875479.

4) ⁶⁾

Kreppel D, Antoniadis G, Seeling W. Spinal hematoma: a literature survey with meta-analysis of 613 patients. Neurosurg Rev. 2003 Jan;26(1):1-49. doi: 10.1007/s10143-002-0224-y. Epub 2002 Sep 24. PMID: 12520314.

5)

Evans RW. Complications of lumbar puncture. Neurol Clin. 1998 Feb;16(1):83-105. doi: 10.1016/s0733-8619(05)70368-6. PMID: 9421542.

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Last update: **2024/06/07 02:57**

