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CASE REPORT

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Spontaneous idiopathic spinal subdural hemorrhage in a 16-year-old boy: A rare case in pediatrics and review of literature

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Abstract

Idiopathic spinal subdural hematoma (SSDH) is a rare phenomenon. Here, we present a 16-year-old-boy who presented with acute sudden onset weakness and brown squared syndrome; the cervical MRI findings showed acute subdural hematoma from C2 to C6. Emergent surgical intervention was performed, and significant improvement was seen in follow-ups.

KEYWORDS

cervical spine, idiopathic, pediatric, spontaneous subdural hematoma, subdural hematoma

1 | INTRODUCTION

Spontaneous subdural hematoma (SSDH) is a rare condition resulting in cord compression and is associated with significant mortality and morbidity. Spinal SDH can be secondary to anticoagulation therapy, blood dyscrasia, spinal puncture, trauma, spinal anesthesia, or vascular malformation. However, spontaneous SDH is rare, and pathophysiology is still unknown.[1]

Rupture of the vasculature within the subarachnoid or subdural space has been proposed as a potential pathogenic mechanism in certain cases. While some suggest that the bleeding originates from the subarachnoid vessels with concomitant rupture into the subdural space following an increase in intra-abdominal or intra-thoracic pressure, others have proposed an alternative theory that the bleeding begins in the subdural space itself.[2]

The clinical manifestations of SSDH are related to cord compression and vary from back pain to motor, sensory, and autonomic dysfunction.[3,4] The main approach for confirming the diagnosis is magnetic resonance imaging (MRI).[5] Although surgical intervention through decompression is considered as the main treatment option, percutaneous drainage or conservative therapies are also

signs and symptoms drainage or surgery should be performed, as we did in our case. Early surgery and aggressive approach is a viable option even in long-lasting spinal cord compression. It is evident that the outcome mainly varies on the basis of clinical conditions and lesion levels.[1] In the present study, our patient showed severe neurological deficits and underwent C3-C7 levels laminectomy; he showed, however, a satisfactory late follow-up, indicating the short period of time between the onset of the symptoms and the surgical treatment (at most 24 h). It is worth mentioning that those with paraplegia and bladder and bowel dysfunction show lower prognosis, irrespective of conservative or surgical decompression. In adult patients, conservative laminectomy at the cervical surface does not necessarily affect the spinal stability. Based on the authors' knowledge and literature review, our patient was the first C3-C7 SSDH report treated with C3-C7 laminectomy. As a result, in such cases, posterior fixation is not performed.

5 | CONCLUSION

For satisfactory clinical outcomes, urgent clinical and neurological identification with immediate surgical management is required in SSDH cases (at most 24 h after the onset of symptom). Furthermore, extensive operative strategies can be effective and necessary. Cervical laminectomy is predominantly considered as a safe and effective option as long as it is conservative. Also, we should declare that considering the emergency condition of the patient and lack of instrumentation facilities in our center, only laminectomy was done for the patient, although we suggest that laminectomy and fixation would have better results to prevent kyphosis in future.

AUTHOR'S CONTRIBUTION

The conception and design of the study done by Iman Ahrari, Mohammad Jamali, and Arash Saffarrian. Material preparation and data collection were performed by Reza Taheri, Sulamz Ghahramani, and Mahsa Ghavipisheh. Data analysis was done by Keivan Eghbal and Abdolkarim Rahmanian. The first draft of the manuscript was written by Iman Ahrari and Mahsa Ghavipisheh and Somayeh Moahamadi, and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

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CONFLICT OF INTEREST STATEMENT

There are no conflicts of interest to declare.

DATA AVAILABILITY STATEMENT

The data supporting the findings of current study are available from the Namazi hospital data bank. Also, if needed data would be available from corresponding author upon reasonable request and with permission of Namazi hospital authorities.

CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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