ScientificScholar®
Knowledge is power
Publisher of Scientific Journals

www.surgicalneurologyint.com

Surgical Neurology International

Editor-in-Chief: Nancy E. Epstein, MD, Clinical Professor of Neurological Surgery, School of Medicine, State U. of NY at Stony Brook.

SNI: Spine

Editor
Nancy E. Epstein, MD
Clinical Professor of Neurological Surgery, School of Medicine, State U. of NY at Stony Broo

SNI
Open Access

Case Report

Spontaneous spinal epidural hematoma related to amphetamine abuse: A case report

Sami Obaid[1], Lior M. Elkaim[2], Charles Gariepy[3], Harrison J. Westwick[4], Sung-Joo Yuh[1], Daniel Shedid[1]

[1]Division of Neurosurgery, Centre Hospitalier de l'Université de Montréal (CHUM), [2]Department of Neurosurgery, McGill University, [3]Department of Neurosurgery, CHU de Quebec - Hopital l'Enfant-Jesus, [4]Department of Surgery, CIUSSS du Nore de L, Ile de Montréal - Hôpital du Sacré-Coeur de Montréa, Montreal, Quebec, Canada.

E-mail: Sami Obaid - obaidsami@hotmail.com; *Lior M. Elkaim - lior.elkaim@mail.mcgill.ca; Charles Gariepy - charles.gariepy.2@ulaval.ca; Harrison J. Westwick - harrison_westwick@hotmail.com; Sung-Joo Yuh - syuh071@hotmail.com; Daniel Shedid - danielshedid@hotmail.com

***Corresponding author:**
Lior M. Elkaim,
Department of Neurosurgery,
McGill University, Montreal,
Quebec, Canada.

lior.elkaim@mail.mcgill.ca

Received : 07 November 2021
Accepted : 08 January 2022
Published : 04 February 2022

DOI
10.25259/SNI_1114_2021

Quick Response Code:

ABSTRACT

Background: Spontaneous spinal epidural hematoma (SSEH) is a rare condition that is typically associated with hypertension, the use of antithrombotic or sympathomimetic drugs. Here, we report a case of SSEH attributed to the use of amphetamines.

Case Description: A 27-year-old amphetamine user presented with the sudden onset of paraplegia (Frankel A) following amphetamine use. An MRI revealed C7–T2 spinal cord compression due to an epidural hematoma. Following a negative angiogram, the SSEH was removed, and the patient markedly recovered. Notably, by exclusion, the etiology for the SSEH was attributed to the use of amphetamines.

Conclusion: Here, we demonstrate the case of a 27-year-old male who presented paraplegic due to an acute C7–T2 SSEH secondary to amphetamine abuse.

Keywords: Amphetamine, Epidural, Hematoma, Spine

INTRODUCTION

Spontaneous spinal epidural hematomas (SSEHs) are rare, occurring in approximately 1/1 million individuals/year. Magnetic resonance (MR) studies performed in suddenly myelopathic patients with SSEH will document the location and size of these hemorrhages. Emergent surgical decompression and drainage are typically warranted.[2] SSEHs are usually attributed to hypertension, pregnancy, use of antithrombotics, and cocaine abuse. Here, we present a 27-year-old male whose SSEH was due to the use of amphetamines.[2,5]

CASE PRESENTATION

History

A 27-year-old chronic amphetamine abuser acutely presented with paraplegia just after taking amphetamines. Over a 4 h period, he developed total motor and sensory loss (i.e., Frankel Grade A). The only abnormal laboratory study was the urine toxicology screen that showed the presence of amphetamines. An emergent MRI showed a posterolateral right-sided C2–T6

acute SSEH that caused marked C7–T2 cord compression [Figures 1a and b].

Surgery

The patient underwent an emergent right-sided C7–T2 hemilaminectomy for hematoma drainage. Neither infection nor tumor was present. The histopathology was consistent with an acute hematoma.

Postoperative MR and clinical course

The day after surgery, an MRI documented near-total drainage of the hematoma [Figures 2a and b]. Further, a repeat angiogram confirmed no vascular malformation. Notably, the patient's sensorimotor function substantially improved, and within 6 months, he had nearly fully recovered (i.e., sensory intact with residual 4/5 proximal/distal motor lower extremity deficits).

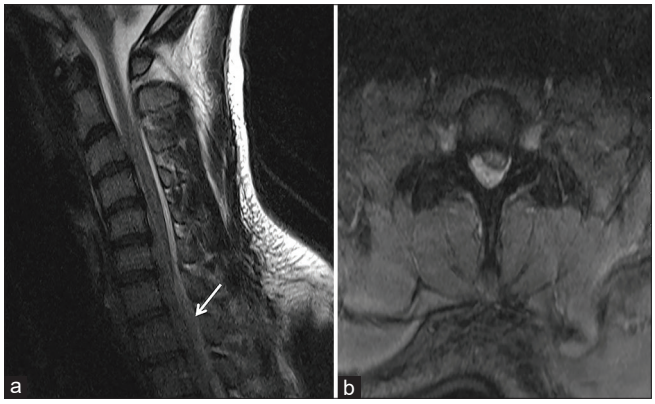

Figure 1: Initial spinal MRI. Sagittal (a) and axial (b) T2-weighted sequences revealing a right-sided hyperintense posterolateral epidural collection extending from C2 to T6. A significant compression was observed between C7 and T2 (arrow). Signal changes were characteristic of an epidural hematoma.

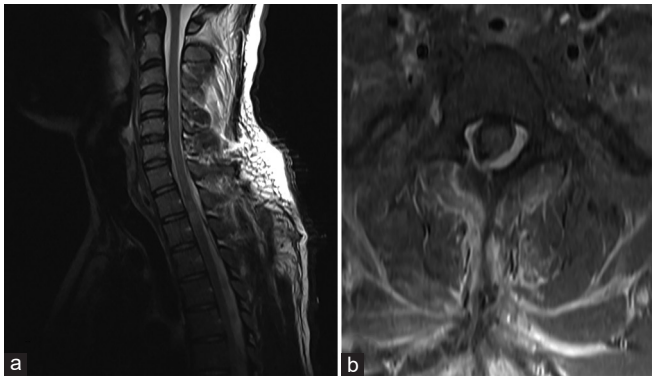

Figure 2: Postoperative MRI. Sagittal (a) and axial (b) T2-weighted MRI showing near-total drainage of the hematoma and spinal cord decompression.

DISCUSSION

SSEHs typically progress rapidly and often lead to paralysis. Predisposing factors usually include antithrombotic medication, hypertension, and cocaine abuse. We found only one other case of spinal hemorrhage related to amphetamine abuse in the literature. Contrasting the SSEH described in this paper, the case consisted of spinal subdural and subarachnoid hemorrhage after amphetamine use.[3]

Management of SSEH

SSEH requires early surgical spinal cord decompression and drainage to optimize the likelihood of neurological recovery. Further, patients whose SSEH is attributed to amphetamine use typically require strict blood pressure control (i.e., medical management). Those with myelopathy and significant neurological deficits usually require urgent MRI and prompt surgical intervention to achieve the best outcomes.[1,4,6]

Here, the patient presented with a 3-segment cervicothoracic SSEH that was decompressed within 6 h of its onset; the patient's excellent postoperative neurological recovery was largely attributed to early recognition, diagnosis, and surgical decompression.

CONCLUSION

Here, we presented a 27-year-old male whose abuse of amphetamines resulted in the sudden onset of paraplegia due to an acute MR-documented C2–T6 acute SSEH.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Kreppel D, Antoniadis G, Seeling W. Spinal hematoma: A literature survey with meta-analysis of 613 patients. Neurosurg Rev 2003;26:1-49.
2. Lee HH, Park SC, Kim Y, Ha YS. Spontaneous spinal epidural hematoma on the ventral portion of whole spinal canal: A case report. Korean J Spine 2015;12:173.
3. Liu CL, Cheng CH, Cho DY. Rhabdomyolysis accompanied

by spontaneous spinal subdural and subarachnoid hematoma related to amphetamine abuse. Spine. 1976;35:71-3.
4. Ohba T, Ebata S, Haro H. Influence of postoperative hypertension on the development of spinal epidural hematoma. Orthop Surg 2017;9:386-90.
5. Riaz S, Jiang H, Fox R, Lavoie M, Mahood JK. Spontaneous spinal epidural hematoma causing Brown-Sequard syndrome: Case report and review of the literature. J Emerg Med 2007;33:241-4.
6. Spengos K, Sameli S, Tsivgoulis G, Vassilopoulou S, Vemmos K, Zakopoulos N. Spontaneous spinal epidural hematoma in an untreated hypertensive patient. Eur J Intern Med 2005;16:451-3.

How to cite this article: Obaid S, Elkaim LM, Gariepy C, Westwick HJ, Yuh SJ, Shedid D. Spontaneous spinal epidural hematoma related to amphetamine abuse: A case report. Surg Neurol Int 2022;13:35.