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Traumatic cervical hernia associated with myelopathy without bone-joint injury

Hernia cervical traumática asociada a mielopatía sin lesión óseo-articular

María Teresa Alvarado,* Santiago Andrés Rosales-Camargo,‡ Omar Marroquín-Herrera,§ Fernando Alvarado Gómez¶

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Palabras clave:
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ABSTRACT

The traumatic cervical hernia without bone lesion or articular joint associated with myelopathy is a rare pathology. The reported cases in the literature had a late diagnosis, secondary to clinical and radiological findings that can be unnoticed. Usually, the first contact with the patient is not done by a spine surgeon specialist. The case presented is a male patient with facial trauma that developed a cervical myelopathy, two weeks later due to cervical traumatic hernia at C3-C4 without bone lesion, that was not diagnosed early, later the patient presented neurological alteration and required surgical treatment for decompression and anterior arthrodesis, with good outcomes after six months of follow up.

RESUMEN

La hernia cervical traumática sin lesión ósea o articular asociada a mielopatía es una patología rara. Los casos reportados en la literatura tuvieron un diagnóstico tardío, secundario a hallazgos clínicos y radiológicos que pueden pasar desapercibidos. Habitualmente, el primer contacto con el paciente no lo realiza un cirujano especialista en columna. Se presenta el caso de un paciente masculino con traumatismo facial, que desarrolló una mielopatía cervical dos semanas después por hernia cervical traumática en C3-C4 sin lesión ósea, que no fue diagnosticada precozmente, posteriormente el paciente presentó alteración neurológica y requirió tratamiento quirúrgico para su descompresión y artrodesis anterior, con buenos resultados a los seis meses de seguimiento.

INTRODUCTION

Cervical traumatic hernias without bone injury or dislocation, are a relatively rare pathology occur in 1.45% of cases of cervical trauma, most cases are diagnosed early by the mechanism suggested by the type of lesion or signs and symptoms of acute neurological alterations.[1]

Additionally, cervical neurological injury has also been related to facial trauma, this association occurs in 0.01-3%. With a higher incidence in car accidents involving cyclists, when facial fractures occur, the risk of having a hidden cervical injury increase, the mechanism of trauma and cervical imaging should be carefully evaluated for early diagnosis.[2,3]

* Neurosurgeon, Hospital Serena del Mar, MedPlus. Spine surgery research, Hospital Universitario Fundación Santa Fe de Bogotá.
‡ Medical research, spine surgery, Hospital Universitario Fundación Santa Fe de Bogotá. ORCID: https://orcid.org/0000-0002-4591-0134
§ Spine surgeon, Minimal Invasion Center. Spine Surgery-Orthopedics. Puebla, México. ORCID: https://orcid.org/0000-0003-4159-0222
¶ Chief of spine surgery, Hospital Universitario Fundación Santa Fe de Bogotá. ORCID: https://orcid.org/0000-0002-8854-0356

Correspondence:
Omar Marroquín-Herrera
E-mail: dr.omarmhspine@gmail.com

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The consequence of misdiagnosis of cervical traumatic hernia can lead to major complications such as myelopathy and other neurological disorders that can have important repercussions on the patient.[4]

PRESENTATION OF THE CASE

Male patient of 39 years of age suffers bicycle fall, presenting facial trauma with fractures handled by maxillofacial surgery, during the hospital hospitalization of four days was diagnosed fracture C1 type 2A AOSpine *(Figure 1)* which is treated with rigid cervical collar giving home discharge by the emergency team.

10 days after discharge, the patient consults the neurosurgical and spine team, referring in the last days to the progressive loss of strength in four extremities as well as cervicalgia that does not have analgesics. Physical examination was performed by the Spine Surgery service showing signs of cervical myelopathy with neurological deficit ASIA C for which simple magnetic resonance of the cervical spine was requested, where traumatic herniation C3-C4 was found with changes at the medullary level that suggest myelopathy secondary to traumatic disc herniation not previously diagnosed *(Figure 2)*. Given the MRI findings, it was decided to perform microdiscectomy with emergency anterior arthrodesis *(Figure 3)*.

In the postoperative period of 24 hours, the patient presented improvement in strength as well as sensitivity in the upper limbs ASIA D, but persists with pain of bilateral C4 root characteristics, making it necessary to manage with analgesics and neuromodulator. It is decided to discharge from the hospital with sending for rehabilitation and in the follow-up of six months the patient is neurologically intact ASIA E, joining his work activities.

DISCUSSION

Despite the report of several case series of traumatic cervical hernias that develop neurological clinical data or that are diagnosed incidentally, these are mostly associated with vertebral fractures or facet dislocations, which alert us to make an early diagnosis with imaging studies;[5,6] however the presence of myelopathic spinal cord injury late, secondary to an isolated traumatic cervical hernia, is difficult to diagnose and only a few cases are reported in the literature with these characteristics similar to ours.[7-9]

Suspecting a cervical neurological injury leads us to the taking of nuclear magnetic resonance imaging that gives diagnostic precision in case of a traumatic hernia, at the same time we can predict the degree of injury, prognosis and urgency in the treatment,[4,10] so it is essential to perform it for surgical decision making and the type of decompression either discectomy anterior or posterior with arthrodesis, which so far is a management alternative that has positive results in the short and long term.[11]

CONCLUSIONS

In the emergency room department, it is important to suspect hidden cervical injuries in patients with polytrauma and facial fractures. Even if the patient doesn't have any neurological deficit the radiological studies must be completed to avoid the morbidity and mortality associated with traumatic hernias.

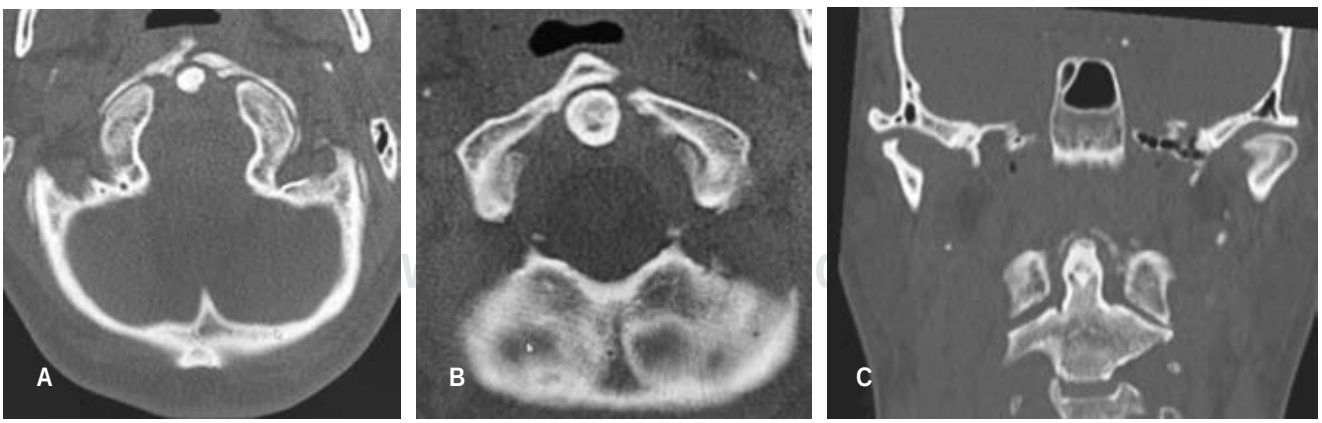

Figure 1: Simple CT scan. **A)** Axial view showing integrity of the occipital condyles and anterior arch fracture of C1. **B)** Axial view anterior arch fracture of C1. **C)** Coronal view integrity articulation C1-C2.

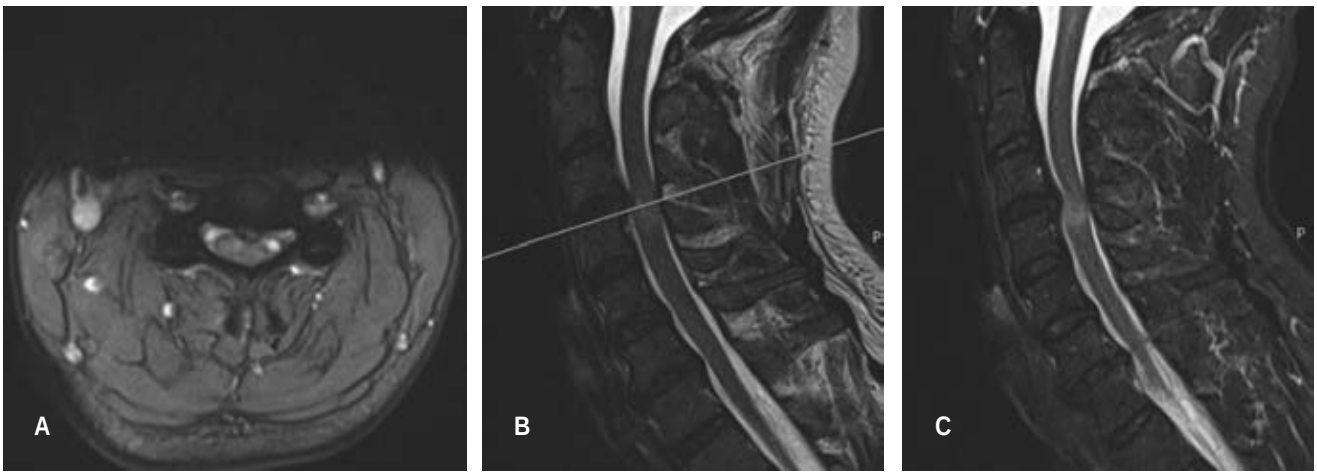

Figure 2: Magnetic resonance. **A)** Axial view C3-C4 shows traumatic central hernia compressing marrow with myelopathic changes. **B)** Sagittal view sequence T2 shows medullary hyperintensity at compression level. **C)** Sagittal view T2 stir shows hyperintensity at medullary level C3-C4.

Figure 3: Trans surgical lateral X-ray shows the placement of cervical blockade cage C3-C4.

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Conflict of interest: the authors declare no conflict of interest.