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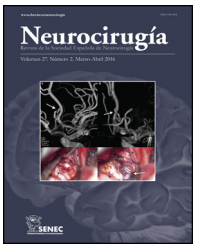

Case Report

Brown-Séquard syndrome and cervical post-traumatic subarachnoid hematoma

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ABSTRACT

Cervical Traumatic SSH are very rare in literature. They are usually caused by cardiopulmonary diseases that increase vascular pressure causing spinal vessels rupture.

In thoracolumbar spine, the spinal puncture is the most common cause. The ventrolateral position is even more unusual.

In traumatic brain injury (TBI), an abrupt extension–flexion movement could have caused the rupture of subarachnoid vessels. This, accompanied by the slowed blood "wash out" (probably due to the previous osteoarthrosis and spinal canal stenosis), led to the formation of an organized clot, which caused an acute spinal cord compression syndrome.

Cervical subarachnoid spinal hematoma can present as Brown-Séquard syndrome. The treatment is prompt surgical removal and decompression. The posterior approach (partial hemilaminectomy with or without laminoplasty) with microsurgical technique is feasible, fast and simple to evacuate the hematoma with good results. Surgical nuances in posterior approach are: small spinal canal, difficulty in mobilizing the cervical cord, these haematomas are wrapped and attached to the spinal cord or nerve roots by multiple arachnoid bands, requiring techniques of Microdissection for its evacuation unlike the epidural and subdural haematomas that are easily aspirated.

Here, we report a unique case of a ventrolateral SSH due to TBI.

Síndrome de Brown-Séquard y hematoma subaracnoideo espinal cervical postraumático

Palabras clave:
Compresión medular espinal
Punción lumbar/efectos adversos
Hemorragia subaracnoidea

RESUMEN

Los hematomas subaracnoideos espinales cervicales postraumáticos son muy infrecuentes en la literatura. Generalmente son causados por enfermedades cardiopulmonares que incrementan la presión vascular y producen la rotura de los vasos espinales.

En la columna toracolumbar la causa más frecuente es la punción lumbar. La posición ventrolateral dentro del canal es todavía más inusual.

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En el traumatismo craneoencefálico, un movimiento súbito de flexoextensión podría causar la rotura de vasos subaracnoideos. Si lo anterior se acompaña de un «lavado» enlentecido de la sangre (probablemente debido a la presencia de osteoartrosis y estenosis de canal), podría llevar a la formación de un coágulo organizado, el cual, si es de gran tamaño, podría causar un síndrome de compresión medular aguda.

Los hematomas subaracnoideos espinales cervicales pueden presentarse como un síndrome de Brown-Séquard. El tratamiento en caso de compresión medular aguda es la evacuación del coágulo y la descompresión del canal urgente. El abordaje posterior (hemilaminectomía parcial con o sin laminoplastia) con técnica microquirúrgica es factible, rápido y sencillo para evacuar el hematoma, con buenos resultados. Los matices quirúrgicos en el abordaje posterior son: pequeño canal espinal y dificultad para movilizar la médula cervical. Estos hematomas están envueltos y adheridos a la médula espinal o a las raíces nerviosas por múltiples bandas aracnoideas, requiriendo técnicas de microdisección para su evacuación, a diferencia de los hematomas epidurales y subdurales, que son fácilmente aspirados.

Presentamos un caso único de un hematoma subaracnoideo espinal cervical ventrolateral debido a traumatismo craneoencefálico leve.

Introduction

Spinal subarachnoid hematoma (SSH) is commonly caused by lumbar puncture (44.9%) followed by coagulopathy (40.5%) and trauma (15.9%). It can occur in isolation or in combination with subdural hematoma. The most affected segment is the thoraco-lumbar junction (D10-L3, 50%). The most common location is dorsal 60%, ventral 26% and lateral 8.9%.[1–4] The MRI is able to depict useful information regarding the topography of the hemorrhage and the spinal cord involvement. However, CT remains useful when MRI is contraindicated. In an extensive review published by Domenicucci of a total of 69 cases of SSH, only 12 occurred in the cervical region, 4 of these cases were localized in the ventral region, and none of the cervical cases were caused by traumatic injuries. Here, we report a unique case of a ventrolateral SSH due to mild traumatic brain injury (TBI).

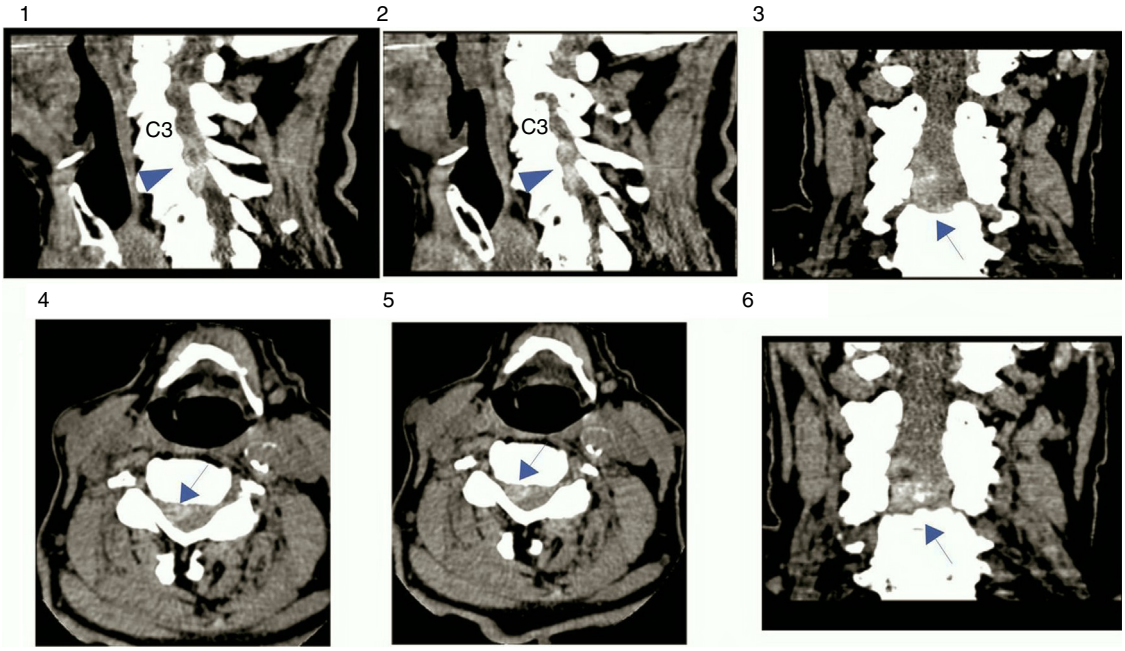

Fig. 1 – Radiological imaging of cervical subarachnoid hematoma. Cervical CT. A big acute cervical spinal hematoma, probably epidural type. (1.A) and (1.B.) Arrowhead: C3–C5 cervical hematoma. (3.C), (4.D), (5.E), (6.F) Arrow: right anterolateral hematoma.

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