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CASE REPORT

Hydromyelia regarding a case, should we perform an intrapartum epidural?

Hidromielia a propósito de un caso, ¿debemos realizar una epidural intraparto?

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Summary

Hydromyelia, dilation of the ependymal duct, is a random finding that is increasing in incidence due to the use of magnetic resonance imaging. During labour, central locoregional anaesthesia can be performed without increasing the incidence of neurological complications or sequelae. It is important to differentiate it from syringomyelia, a fluid-filled cavity in the spinal cord and lined with glial cells that is usually associated with Chiari syndrome and can produce, with central locoregional anaesthesia, depending on its location, a valvular mechanism of the CSF and increase intracranial pressure.

Key words: Anesthesia, Spinal, syringomyelia, Arnold-Chiari malformation.

Resumen

La hidromielia, dilatación del conducto ependimario, es un hallazgo aleatorio cuya incidencia está aumentando gracias al uso de la resonancia magnética. Durante el parto, se puede realizar anestesia locorregional central sin aumentar la incidencia de complicaciones o secuelas neurológicas. Es importante diferenciarla de la siringomielia, una cavidad llena de líquido en la médula espinal y revestida de células gliales que suele asociarse al síndrome de Chiari y que puede producir, con la anestesia locorregional central, dependiendo de su localización, un mecanismo valvular del LCR y aumentar la presión intracraneal.

Palabras clave: Anestesia espinal, siringomielia, malformación de Arnold-Chiari.

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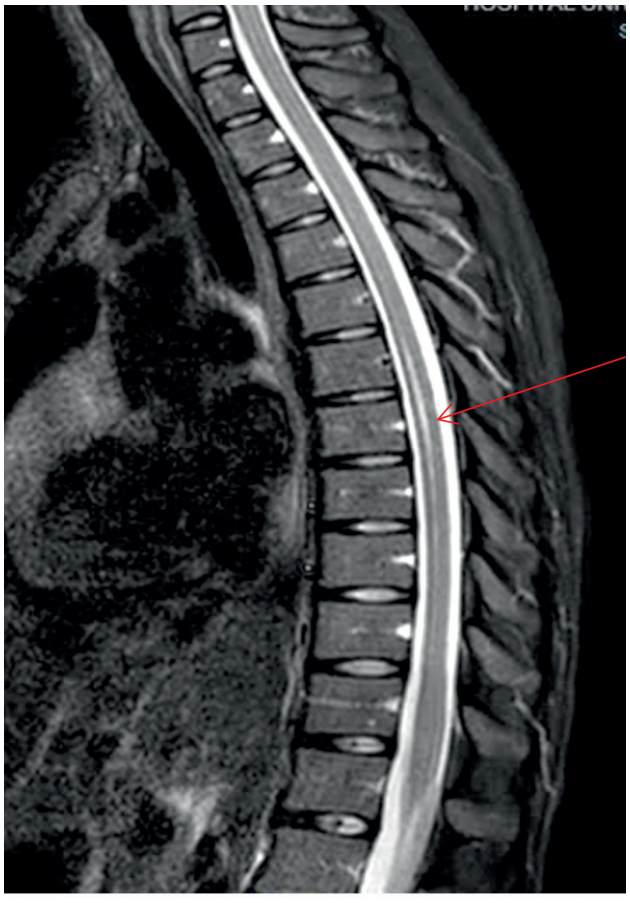
Introduction

Syrinx in the form of a slit or hydromyelia refers to a dilation greater than 6 mm in Magnetic Resonance (MRI) of the central spinal canal, the ependymal duct, which is lined by ependymal cells, and must be differentiated with the term syringomyelia, which comes from the Greek language "syrinx" (reed or tube) and "myelos" (marrow), which refers to the presence of a fluid-filled cavity in the spinal cord and lined with glial cells[1]. The predominant classification is based on anatomical characteristics and pathogenesis rather than pathophysiological mechanisms.

The diagnosis of hydromyelia should be made by a complete spinal MRI (cervical, dorsal and lumbar) that includes morphological sequences (T1-, T2-, FLAIR-, T2, Enhanced T1) and a dynamic MRI with a careful study of CSF velocity (CISS, cine-MR sequences)[2]. Plain radiographs and computed axial tomography (CAT) are used to study bone abnormalities.

Treatment of incidental asymptomatic hydromyelia is nonsurgical. It does not represent a disease with an underlying pathology; no clinical or radiological progression has been observed[3].

Figure 1: MRI image.



Case

Patient in labour with a history of lumbosciatalgia and broken tailbone after an accident years ago. When reviewing the history, a TSE-T1 TSE-T2 and STIR MRI showed distention of the central ependymal canal between D4-D5 and D9-D10 with a dimension of 1,7mm in D6-D8 and slight physiological cervical lordosis, without presence of central stenosis or existence of masses or pathological collections (**Figure 1** and **figure 2**).

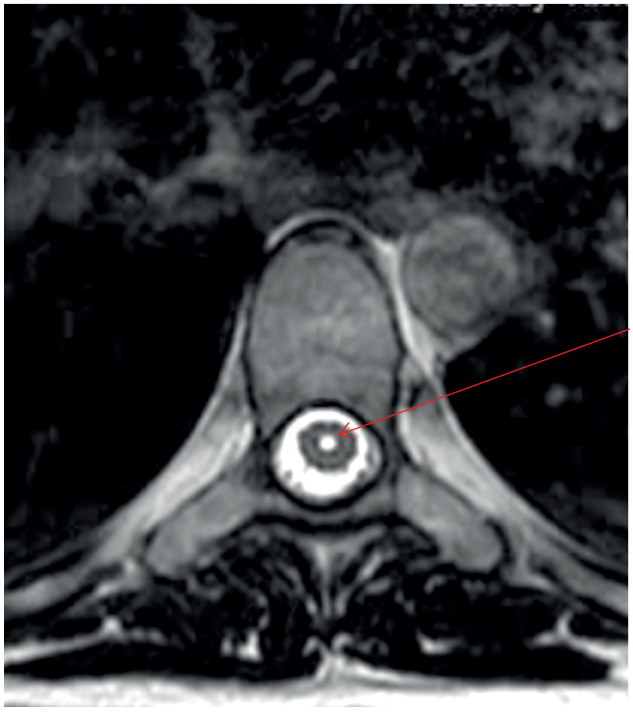
When performing the epidural technique in the previous physical examination, thoracolumbar scoliosis was evident. The epidural technique was performed under asepsis without complications.

During labour, analgesia was administered by continuous infusion of 0.2% ropivacaine plus 0.1 mg of fentanyl at 8 ml/h. No lateralization or extensive motor block was observed, and he remained hemodynamically stable with a VAS level of 2.

As labour did not progress and there were alterations in the foetal monitor, urgent caesarean delivery was indicated. 3 ml of 2% lidocaine, 7 ml of 0.75% ropivacaine plus 0.05 mg of fentanyl were administered, allowing the caesarean section to be performed with a good anaesthetic level.

During the postoperative period, hemodynamic stability was maintained without obvious bleeding, a contracted uterus, and recovery of motor skills and sensitivity in the lower extremities.

Figure 2: MRI image.



Discussion

Epidural anaesthesia is a safe procedure. Knowledge of complications can support efforts to minimize risks. Hydromyelia should be separated from patients with true syringomyelia with an underlying disorder, as they do not share clinical or radiological features.

Post-traumatic syringomyelia is a life-threatening late complication of spinal cord injury. The syrinx extended upward and/or downward from the area of previous trauma. It occurs in approximately 1,1 – 3,2% of spinal injury cases[4]. It is characterized by the development of new neurological symptoms after a variable time interval, around 12 years.

The most typical symptom, although it is not necessarily present, is the decrease in vital sensitivity without loss of gnostic sensitivity.

Surgical treatment is recommended if there is progressive neurological deterioration and consists of drainage of the syrinx[5].

Idiopathic syringomyelia, in theory, have a higher risk of increased intracranial pressure and brainstem compression and/or disease progression during labor[6].

It is closely related to the unusually low position of the conus medullaris, idiopathic scoliosis and Chiari syndrome type I, which is a disorder of the hindbrain that can cause altered craniospinal pressures and abnormal flow of cerebrospinal fluid[7] since they all probably share the same pathogenic mechanism[8]. Anaesthetic complications occur infrequently in patients with ACM-I regardless of anaesthetic management[9].

New case series studies have emerged supporting that in patients with Chiari I malformation who do not have signs of increased intracranial pressure, the mode of delivery should be based on obstetric rather than neurological considerations. In addition, both the use of epidural and intradural anaesthesia must be available[10].

Conflict of interest

The authors declare that they have no competing interests.

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