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Intracranial Hemorrhage and Facial Paralysis: An Unexpected Duo in Newborns

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Summary: **Case Report**

Neonatal facial paralysis is rare and often caused by compression of the facial nerve due to obstetric trauma. Although generally benign, it can reveal serious pathologies, notably intracranial hemorrhage (ICH). Vitamin K, although used to prevent coagulation disorders, plays a role in the management of ICH. This article describes a clinical case of a newborn with ICH associated with facial paralysis.

Keywords: Neonatal facial paralysis, Intracranial hemorrhage (ICH), Obstetric trauma, Vitamin K deficiency, Newborn neurology.

INTRODUCTION

Neonatal facial paralysis (FP) is a rare, usually peripheral condition caused by compression of the facial nerve at the stylomastoid foramen following obstetric trauma. It often evolves favorably. However, it may be the first sign of a potentially life-threatening condition requiring in-depth evaluation.

The association between FP and intracranial hemorrhage (ICH) is unusual and poorly documented in newborns. It raises questions about the underlying pathophysiological mechanisms and optimal management. In this work, we describe the case of a newborn with PF diagnosed on the first day of life, revealing ICH. The favorable outcome, marked by spontaneous resorption of the hemorrhage and clinical recovery, underlines the importance of appropriate monitoring and enriches our understanding of this unusual clinical presentation.

OBJECTIVE

To share a rare clinical case with a view to raising clinicians' awareness of the importance of early diagnosis and close monitoring in cases of FP associated with intracranial lesions in newborns.

OBSERVATION

This was a Farr term birth to a male from a non-consanguineous marriage, in a poorly monitored pregnancy carried to term in a 29-year-old primiparous woman with no particular history of pregnancy and a negative infectious anamnesis. The delivery was

vaginal, with an episiotomy performed and no other obstetric instrumentation reported. No other significant perinatal risk factors were identified. On admission, the newborn was reactive, spontaneously gesticulating and pink in color, with hemodynamic and respiratory stability. He presented a left occipito-parietal serosanguineous hump with facial asymmetry (deviation of the mouth to the right side with obliteration of the nasolabial fold and palpebral inclusion on the contralateral side) as well as a sucking reflex and archaic reflexes present. He had a normotensive anterior fontanel with good axial and peripheral tone.

Paraclinical: the patient had a negative infectious workup with a normal coagulation panel (tp: 95%, platelet count: 341,000/mm3).

Trasnfontanellar ultrasound revealed a subependymal hemorrhage measuring 4.3 mm on the right and 3 mm on the left, with visible ventricular flooding without dilatation that could be classified as Papille grade II.

The patient had no indication for neurosurgery and was monitored with vitamin K therapy. The evolution was marked by clinical regression of the paralysis and ultrasound resorption of the hemorrhage at D7 of life.

Figure 1: Showing facial paralysis

On coronal sections of trans-fontanellar ultrasound, subependymal haemorrhage can be seen in V3 grade 2 of the Papile classification.

DISCUSSION

Neonatal FP is a relatively rare pathology, but remains a frequent cause of consultation in pediatrics. It can be caused by a variety of factors, including obstetric trauma, vascular anomalies, congenital infections, or nerve compression due to fetal presentation. In

our case; FP associated with intracranial hemorrhage highlights an unusual presentation, which merits in-depth analysis to understand its mechanisms and therapeutic implications.

The presence of a left occipito-parietal serosanguineous bump, in this presentation, suggests pressure exerted on the newborn's head, potentially during passage through the vaginal canal, which could have resulted in direct trauma to the facial nerve.

ICH in neonates can result from obstetrical trauma, notably excessive compression of the head during delivery or episiotomy. The presence of this hemorrhage could also explain some of the neurological signs observed, although the absence of signs of intracranial hypertension in our case seems to rule out a serious course.

The administration of Konakion per os in this baby was a preventive measure aimed at limiting the risk of a possible worsening of the ICH. Although vitamin K1 is mainly used to prevent coagulation disorders, its role in the management of ICH in neonates is well documented, especially in cases of suspected coagulation anomaly or hypovitaminosis K.

The favorable clinical course, consisting of a regression of FP and spontaneous resorption of ICH, is in line with what has been described in the literature, where small ICHs, often related to benign obstetric trauma, resolve spontaneously without neurological sequelae. Neonatal PF, although initially worrying, is also subject to spontaneous resolution in a significant proportion of cases.

Cases reported in the literature of neonatal FP associated with ICH are rare, but several studies suggest that their association may be underestimated. In some cases, neonatal FP is the clinical manifestation of a more diffuse neurological lesion, and brain imaging can diagnose clinically unsuspected ICH. The prognosis is generally favorable when hemorrhages are localized and small.

CONCLUSION

This case highlights the importance of a thorough and rigorous evaluation of newborns presenting with FP. Although this condition is often benign, it is crucial to exclude serious causes such as head trauma associated with intracranial hemorrhage. Early brain imaging, in particular ETF, is an essential tool for guiding management and monitoring the evolution of the hemorrhage. Clinical evidence of probable obstetrical trauma highlights the need for medical monitoring of pregnancy and labor to minimize these rare situations.

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