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Case Report

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Spontaneous abscess of the cervical posterior simple meningocele of child: A rare case and literature review

Abstract

Simple meningocele is a rare subtype of spinal cord malformation, with meninges and cerebrospinal fluid protruding into the subcutaneous tissue through a defect in the spinal column. However, the skin covering the defect is intact. If the cyst protrudes dorsally from the spinal canal, we speak of simple posterior meningocele. Simple posterior cervical meningocele is a very rare clinical entity. Spontaneous abscess of spinal dysraphism is an extremely rare complication that occurs when surgical cure is delayed. We report an exceptional case of simple posterior cervical meningocele complicated by an abscess requiring emergency surgery. This case highlights the importance of performing surgery within 24-48 hours of birth.

Keywords: Meningocele, neural tube defects, spinal dysraphisms, Spinal cord malformations

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Introduction

A simple meningocele is a rare subtype of spina bifida, with meninges and cerebrospinal fluid protruding into the subcutaneous tissue through a defect in the spinal column. The skin covering the meningocele is usually intact.[1,2] If the cyst protrudes dorsally from the spinal canal, we speak of simple posterior meningocele.[1,3] Simple posterior cervical meningocele is a very rare clinical entity.[4–6] Spontaneous abscess of spinal dysraphism is an extremely rare complication that occurs when surgical cure has been delayed.[1,7] Here we report an exceptional case of simple posterior cervical meningocele in an 08-month-old male infant complicated by an abscess requiring emergency surgery. The postoperative course was marked by sepsis, but the outcome was favorable. This case highlights the importance of performing surgery within 24-48 hours of birth.

Case presentation

A 10-month-old male infant, born at term, eutrophic with a simple posterior cervical meningocele, first child of consanguineous parents, from a monofetal pregnancy well attended to term. The patient was referred to us for the management of an increased cervical mass in a febrile setting.

On admission, the patient was in a stuporous state with a pediatric Glasgow Coma Scale (GCS) score of 9/15 (E2 V2 M5) and pupils isochores reactive to light. He also presented with a meningeal syndrome consisting of high fever (40°C) and meningeal stiffness. Somatic examination revealed a firm, painful pus discharge through the posterior cervical simple meningocele and polyadenopathy in the suboccipital and subscapular regions.

Cervical CT revealed a spina bifida of the simple meningocele type complicated by a deep abscess (Figure 1). The blood work-up revealed signs of infection, with hyperleukocytosis at 25,000 leukocytes/µL, predominantly neutrophilic, an accelerated sedimentation rate of 48 mm/h and a C-reactive protein (CRP) level of 86 mg/L. The rest of the paraclinical workup, particularly the brain scan and biochemical workup, was unremarkable. Flattening of the abscess associated with surgical cure of the posterior cervical meningocele was indicated in the emergency department.

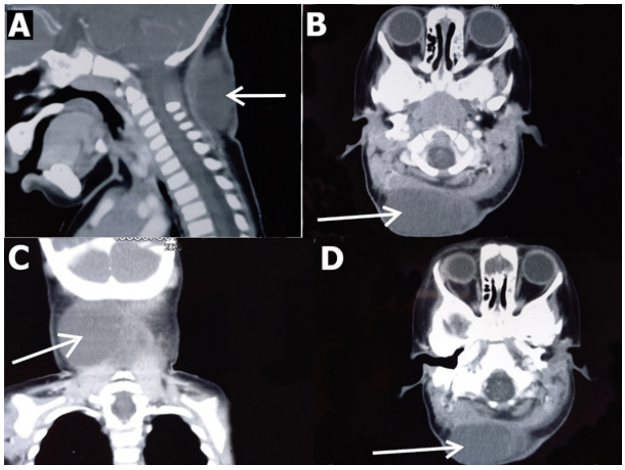

Figure 1 Cerebral computed tomography showing an abscess in the posterior cervical simple meningocele (white arrows).

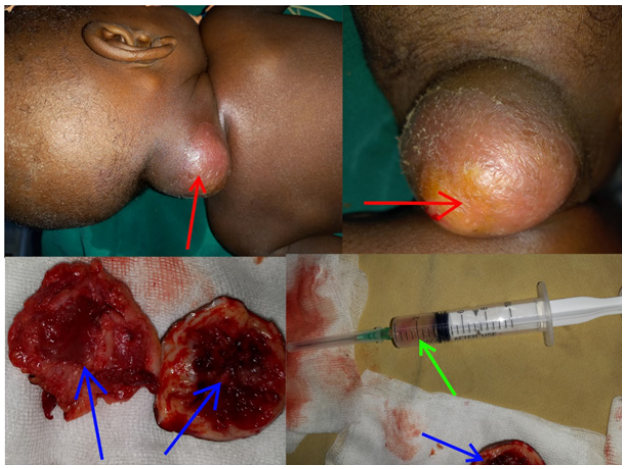

Figure 2 Intraoperative images showing the cervical posterior simple meningocele (red arrows), fleshy and hemorrhagic part of the mass (blue arrows), and pus (green arrow).

In the operating room, opening of the mass revealed a purulent, necrotic fluid with a fleshy, hemorrhagic part (Figure 2). The immediate postoperative course was complicated by sepsis, which was treated with strong antibiotic therapy (ceftriaxone, metronidazole, gendamicin). However, the surgical wound progressed well, and the patient was discharged without sequelae on the 10th day of hospitalization (Figure 3).

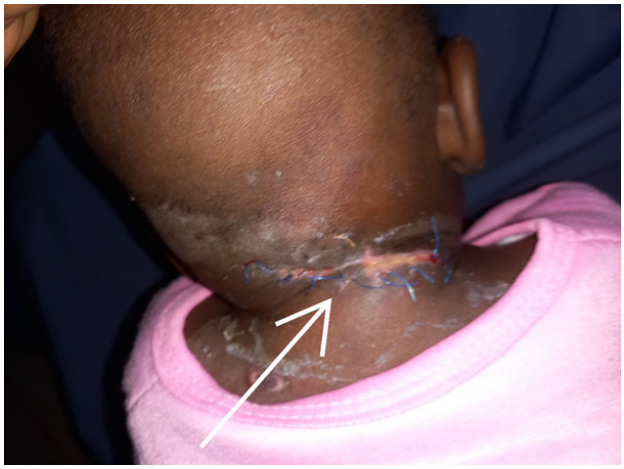

Figure 3 Images showing the appearance of the surgical wound after healing and before suture removal.

Discussion

The incidence of neural tube defects ranges from 1.0 to 10.0 per 1000 births worldwide.[3,4,8] There are several types of neural tube defects, and each type can be divided into different subtypes, including aperta spinal dysraphism (myelomeningocele, myelocele, simple meningocele...).[1–3,9] Simple meningocele is a subtype characterized by a bulging dura mater due to the bony defect, and the cyst contains only cerebrospinal fluid with no spinal cord or ponytail. If the cyst protrudes dorsally from the spinal canal, it is referred to as a simple posterior meningocele.[1] The prognosis of meningocele patients is excellent with simple surgical repair of the meninges. The precise etiology of meningocele remains poorly understood. Most isolated neural tube defects appear to be caused by folate deficiency, which is probably associated with genetic and environmental risk factors.[3] Simple posterior cervical meningocele is an extremely rare clinical entity, most of which becomes symptomatic in childhood due to progressive attachment of the spinal cord or nerve roots. However, this dysraphism may have a greater propensity to be associated with other spinal anomalies.[4–6,10] Spontaneous abscess of dysraphism is an extremely rare complication that occurs when surgical cure has been delayed.[1,7] Most complications can and should be diagnosed before or at birth by careful examination of the lower back for cutaneous stigmata of the disease to reduce the risk of permanent neurological, urological, or orthopaedic disability.[8] However, to avoid infectious complications, it is important to perform a surgical cure at an early stage.

Conclusion

Simple posterior cervical meningocele is a rare entity. Spontaneous abscesses are exceptional. The immediate postoperative course of our case was complicated. This case demonstrates that a surgical cure within the first 24-48 hours can avoid this serious complication.

Acknowledgments

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Conflicts of interest

All the authors have no conflicts of interest to declare.

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