Spontaneous resorption of a sacral meningocele

Case illustration

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Meningoceles are thought to be the products of postneurulation disorder. The neural tube is normally formed beneath the cutaneous lesion; however, when the subsequent development of the overlying mesenchymal tissues and cutaneous ectoderm are aberrant, the result is a cutaneous and mesenchymal defect that contains only cerebrospinal fluid (CSF). Chiari malformation Type II and hydrocephalus are not associated with meningoceles. They are important because of concomitant tethered cord, the chance of CSF leakage, discomfort and pain, their large size, and cosmetic aspects. Skin-covered lesions are managed in an elective manner when CSF leakage is not present. Meningoceles often increase in size.

A girl born via cesarean section at term to a 24-year-old Gravida 1 mother was noted to have a large, skin-covered, soft-tissue mass protruding from her sacral region in the dorsal midline. Prenatal ultrasonography performed 1 month before delivery had revealed a large sacral meningocele, 7 cm in diameter without other abnormalities. The infant had no obvious neurological deficits. Spinal magnetic resonance (MR) imaging revealed a sacral meningocele, which seemed to be devoid of neural elements (Fig. 1). Its greater diameter was only 5.5 cm, smaller than the lesion observed on prenatal ultrasonography. We performed a complete urological evaluation that confirmed a normal urological state. Brain ultrasonography performed during the neonatal period had shown a normal ventricular system. Because of the normal skin covering the lesion, the lack of a tethered cord, and the progressive reduction in size, the girl was observed and did not undergo surgery. At 3 months of age, no obvious mass could be discerned on her back; only wrinkled skin was visible (Fig. 1 upper right). The second MR image obtained at 6 months of age demonstrated that the meningocele sac had disappeared (Fig. 1 lower right).

A comprehensive Medline search of articles from 1966 to March 2004 revealed no previous cases of spontaneous regression of a meningocele. In some circumstances, meningoceles resolve after ventriculoperitoneal shunting or CSF diversion. Restoration of normal CSF dynamics can reduce flow into the sac, resulting in meningocele size reduction.

In our patient, the large meningocele sac (which was in direct communication with the spinal subarachnoid space) underwent a gradual size reduction perinatally that permitted us to observe the lesion only. We presume that this process of reduction is caused by a gradual obliteration of the dural defect or stalk (in which the communication disappears by thickening and adhesion of the leptomeninges at the orifice and by subsequent CSF resorption). High CSF pressure causes the sac to act as an additional fluid space that reduces the chance of spontaneous sac reduction. The absence of hydrocephalus in our patient may be another important factor that helped the resorption process.

References


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