Case Report
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Congenital dermoid cyst over the anterior fontanel in an infant

Abstract

Congenital desmoids inclusion cyst over the anterior fontanel (CDIC) is an uncommon cystic lesion in an infant. It is a benign and curative lesion and can be diagnosed at birth. Here we report a rare case of CDIC in an 8month old baby over the anterior fontanelle which was removed surgically.

Keywords: dermoid cyst, anterior fontanelle, infant

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Introduction

Head and neck dermoid cysts usually occur during childhood as solitary lesions and relatively rare lesions. The Dermoid cysts over the anterior fontanelle represent about 0.1-0.7% of all skull tumors. The most common type of dermoid cyst of the head and neck is congenital dermoid inclusion cyst (CDIC). It is a soft mobile cystic mass covered by normal skin which does not cause any pain. CDIC over the anterior fontanel is a rare and benign lesion located over the anterior fontanel.[1,2] There is no communication between the cyst and the intracranial cavity. Diagnostic imaging such as simple X-rays and computer tomography (CT) scan are necessary for identifying the correct lesion. Here we report a rare case of CDIC over the anterior fontanelle in an infant which was removed surgically.

Case report

An 8-month-old female infant born of a non-consanguineous marriage, who was admitted for soft mass over the head. The mass was seen at birth as a soft tissue mass around the anterior fontanel, and presented as a firm mobile tumor with progressive growth but no neurological findings. Physical examination showed soft mobile mass measuring 4X4cm in diameter over the anterior fontanel. Systemic examination was within normal limit. On investigations, hemoglobin was 13gm%, TLC 6,000/comm, and peripheral smear showed normocytic normochromic RBCs. Radiograms of the skull revealed a soft tissue shadow over anterior fontanel. Pathological findings were not detected in bone tissue. Ultrasonography showed a cystic lesion localized between the scalp and the ecogenic dura over the anterior fontanel region. Computerized tomography (CT) showed a well defined round density cystic mass measuring 4.3x2.7x3.8cm in diameter located extracranial1y over the anterior fontanel. The lesion was completely removed through an ellipsoid incision bordering the mass. The postoperative period was uneventful (Figure 1).

Figure 1 Congenital dermoid cyst of the teratoma.

Discussion

Dermoid cysts of the head and neck usually occur during childhood and relatively rare lesions over the anterior fontanelle. Dermoid cyst is a pathologic term for a cyst lined by squamous epithelium containing skin appendages (hair follicles, sebaceous, and sweat glands). Pathologically dermoid cysts, have been classified in three groups a) Congenital dermoid cyst of the teratoma type which is derived from the embryogenic epithelium, confined to the ovaries

and testis b) Acquired implantation dermoid cyst formed by cells implanted traumatically into deeper structures c) Congenital dermoid inclusion cyst (CDIC) resulting from the inclusion of displaced dermal cells along the embryonic fusion line. CDIC over the anterior fontanel is an uncommon cystic lesion. It is a developmental tumor due to inclusion of dermal elements within the neuroaxis between the third and fifth week of the embryogenesis when the ectoderm folds into the neural tube.[3] In 1971, Adeloye et al.,[4] were the first to report the complete description about this lesion. It is a soft, mobile and cystic mass covered by normal skin and does not cause discomfort or throbbing. CDIC of the anterior fontanel is described as a slow growing, non tender, soft lump covered with intact skin. In our cases the soft mobile masses measuring 4X4cm in diameter over the anterior fontanel was the only findings. These are usually observed at birth and develop gradually through the accumulation of secretions and internal desquamation. There is no communication between the cyst and intracranial cavity. The diagnosis can be made at birth, although adult cases had been also reported. The cystic fluid can be clear or yellow. The electrolyte and glucose concentration of the cystic fluid was noted low by many authors. X-ray skull reveals soft tissue mass over the anterior fontanel, flattering indentation or pitting of the outer table, and sometimes bone defects extending up to the inner table. CT scan and MRI are considered the best investigation, to confirm its extracranial position.[4–6] Same findings were obsereved in our cases. Encephalocele, hemangioma, meningocele, lipoma, sebaceous cyst, and cephalohematoma and pilonidal cyst are important differential diagnosis. Aspiration of the cyst is never recommended because it increases the risk of secondary infection. Dermoid cysts of the anterior fontanel are excised which was done in our case. The best procedure is a complete resection of the cystic mass with removal of the wall by blunt dissection of the tumor.

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Conflict of interest

The author declares no conflict of interest.

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