Case Report

Calcified cephalhematoma

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Abstract

Calcification of cephalhematomas is an uncommon complication of cephalhematoma in children. Larger size hematomas can cause cosmetic deformity, may lead to significant deformity of the inner table of skull and craniosynostosis which may require surgical intervention. We present a case of a 1-year-old male child who presented with the history of scalp swelling over the right parietal region since birth. There were no neurological complaints or deficits. Computed tomographic scan of the brain showed an expansile lesion involving the right parietal bone. As the child was not symptomatic for the mass, we decided to follow him at regular intervals.

Keywords: Birth injury, calcification, cephalhematoma

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INTRODUCTION

Cephalhematomas is a collection of blood into the subperiosteal layer, and the extent is limited by its attachment to the sutures of the skull.[1,2] The reported incidence of cephalhematoma ranges from 0.4% to 3% of neonates.[3,4] The cephalhematoma usually resolves within a month after delivery in the majority of the infants.[3,5-7]

CASE REPORT

A 1-year-old male child presented with the history of scalp swelling over the right parietal region since birth. The mother noted a soft fluctuant swelling immediately after birth. Over a period of time, the mother noticed that the swelling was becoming hard in consistency. However, there was no significant increase in the size of the swelling. Recently, the child had one episode of seizures. There was no history suggestive of delay in the development and milestones. On local examination, there was a 5 cm × 5 cm size hard, nontender and nonpulsatile swelling over right parietal region [Figure 1]. The skin over the swelling was healthy and had normal hair growth pattern. His general and systemic examination was normal. His neurological examination was normal. Plain computed tomographic scan (CT scan) of the brain with bone window showed an expansile calvarial lesion involving the right parietal bone [Figure 2a-f]. His blood investigations were normal. As the child was not symptomatic for the mass, we decided to follow him at regular intervals, and he was started on antiepileptics. The child became seizure free and doing well at follow-up.

DISCUSSION

If the cephalhematomas are not absorbed within the weeks of its occurrence after delivery, it has a tendency to become calcified.[3,5,6] The detachment of the periosteum at the edges triggers the calcification process and forms thin "eggshell" which continue to enlarge and extend.[5,8] In cases of calcified cephalhematoma the inner table of the calvaria can be smooth (Type 1 which requires only ostectomy of the outer table) or there can be a depression of the inner

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Figure 1: Clinical photograph showing swelling over right parietal region

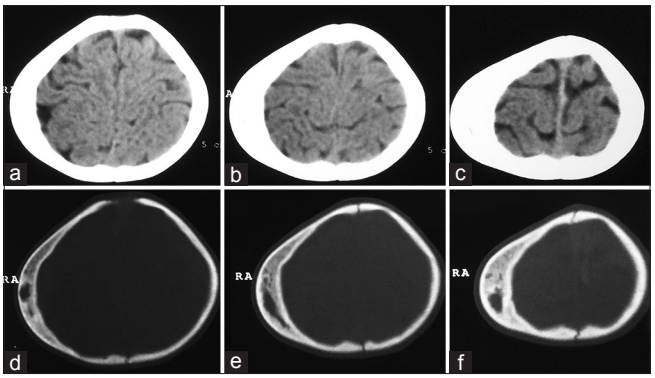

Figure 2: (a-f) Computed tomography scan brain pain with bone window showing a well-defined bone density lesion involving right parietal bone suggestive of ossified cephalhematoma and apparently normal brain parenchyma

table (Type 2 which requires ostectomy and elevation of the inner table).[9] CT scan with bone window is the investigation of choice to know the diagnosis, extent of the calcification, condition of the calvaria (any depression or erosion) and the status of the underlying brain parenchyma.[10] CT scan will show characteristic hypo- to hyper-dense areas in the lesion [Figure 2d-f].[11] On CT scan "double skull sign" has been described as a characteristic finding which is particularly seen in cases of early ossified cephalhematomas.[10] Magnetic resonance imaging can be helpful to assess the underlying brain parenchyma particularly in cases where the children present with seizures.[6,9] The management of calcified cephalhematoma in controversial and depends on the size and type of the lesions.[5,6,8] Conservative treatment shall be enough where the lesion is small in size as with the growth of child the skull will achieve a smooth contour.[5,8] The indications for surgery include larger size (causing cosmetic deformity), significant deformity of the inner table of skull, any need to correct associated craniosynostosis and to make a histopathological diagnosis (if the diagnosis is in doubt).[1,2,6,9,12,13] In rare cases, spontaneous and complete resolution of the calcified cephalhematoma has been reported.[2]

CONCLUSION

Calcified cephalhematoma in a child can pose a diagnostic challenge. The presence of scalp swelling since birth and characteristic imaging features shall help to differentiate these benign lesions from other scalp swellings.

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Conflicts of interest

There are no conflicts of interest.

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