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Enigma of a bony hard lump in the scalp of an infant

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Introduction

A bony lump with asymmetry of the head causes anxiety in parents. A cephalhaematoma is defined as a subperiosteal haemorrhage in a newborn secondary to birth trauma (1). Most of the cephalhaematomas resolve spontaneously and rarely calcify (2). The incidence of cephalhaematoma ranges from 0.4% to 2.5% of all live births with 1 - 2 % of spontaneous vaginal deliveries and 3 - 4% of forceps or vacuum-assisted deliveries (3). Prolonged labour, instrument assisted delivery, macrosomia and abnormal foetal presentations are risk factors for the development of cephalhaematoma (2). Arachnoid cysts, granulomatous lesions and meningoencephaloceles are differential diagnoses for calcified cephalhaematoma (4). Most calcified cephalhaematomas present in infancy. We describe a patient with calcified cephalhaematoma which is a benign bony lump.

Case presentation

An eight-week-old boy with bilateral cleft lip and palate was brought to the clinic for a follow up visit. Mother complained of a bony lump over the right side of the head. According to mother, there was a soft lump over the same area after birth and mother was reassured that it will resolve with time. Enlargement of the lump and change in consistency to bone caused significant parental anxiety. There was no colour change over the lump, tenderness or discharge.

He had been born by unassisted vaginal delivery at 38 weeks of gestation with a birth weight of 3150 g. Bilateral cleft lip and palate were noted and multidisciplinary follow up was arranged. Antenatal period had been uncomplicated. Antenatal ultrasound scans failed to detect the anomaly. Development was age appropriate. Weight gain was satisfactory. Review of past notes showed presence of cephalhaematoma during the neonatal examination. There was no history of neonatal jaundice or evidence of scalp infection.

Examination showed a non tender, lump with bony consistency within the confined of right parietal bone and the skin was mobile over the lump (Figure 1). There was no erythema or discolouration over the lump. A skull X-ray showed “double skull” sign indicating calcified outer layer of cephalhaematoma (Figure 2). Ultrasound scan of the lump showed smooth inner lamella of periosteum without depressed fractures. Parents were reassured about the benign nature of the lump.

Figure 1: Bony lump over the right parietal region

Figure 2: Anteroposterior skull radiograph showing "double skull" sign (Arrow)

Discussion

Bleeding beneath periosteum due to minor trauma during birth causes cephalhaematomas (2). Cephalhaematomas can be differentiated from caput succedaneum and subgaleal haematomas as cephalhaematomas do not cross the suture lines or midline like the other two types (4). Caput succedaneum refers to oedema of the scalp that appears shortly after birth (5). Subgaleal haematomas occur between the aponeurotic layer of the scalp and periosteum due to rupture of emissary veins (6). Both these types have similar aetiology to cephalhaematoma. While caput is completely benign and resolves spontaneously, subgaleal haematomas could be life-threatening. Therefore, it is important to differentiate these types during neonatal examination as in our case.

Our patient did not have any of the risk factors for the development of cephalhaematoma such as macrosomia or instrumental delivery. Cephalhaematomas are benign and most resolve completely. Scalp abscess, neonatal jaundice, osteomyelitis of the skull and meningitis are potential complications of cephalhaematomas (7). Drainage of cephalhaematomas is not advised unless infected (7). Calcified cephalhaematomas are rare and occur sporadically (8). Management of calcified cephalhematomas depend on its size and distortion of calvarium caused by it. Compressive dressings following aspiration are used for early, incompletely calcified cephalohematomas (9). Calcified cephalohematoma causing significant distortion of the calvarium and poor cosmetic outcome requires surgical correction (9). Small calcified cephalhaematomas resolve with time (4). It is difficult to provide comprehensive guidelines as calcified cephalhaematomas are rare (4). Parental education regarding cephalhaematomas is important.

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