

**Picture Story**

## Spontaneous sub-aponeurotic fluid collection (SSFC) in a young infant

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### Introduction

Majority of scalp swellings in infants are due to cephalhaematoma and caput succedaneum and most of them resolve without any residual effects<sup>1,2</sup>. Sub-galeal or sub-aponeurotic bleeding usually appears in the very early postnatal period and carries grave consequences<sup>3</sup>. Sub-aponeurotic fluid collection is a rare but important newly described cause of scalp swelling in young infants<sup>1,4</sup>. As the exact aetiology is not clear, it is called spontaneous sub-aponeurotic fluid collection (SSFC)<sup>4</sup>.

### Case report

An 8-week-old baby girl presented with a painless gradually increasing boggy lump over the left occipito-parietal region of the scalp for 5-days. There was no history of trauma. There were no concerns regarding child safety. Baby was delivered by an emergency lower segmental caesarean section due to the prolonged second stage of labour. The baby was born in good condition with a birth weight of 3.1kg. Her birth length and occipito-frontal circumference (OFC) were recorded as 49cm and 33cm respectively. Her neonatal examination was found to be normal. She was discharged on day three of life after establishing exclusive breast feeding. Neonatal and initial period of infancy were uneventful with good weight gain. There was no family history of bleeding disorders.

Examination revealed a weight of 5.15kg (between Median and -1SD), a length of 56cm (between Median and -1SD) and an OFC of 38cm (on 25<sup>th</sup>

centile). Rest of the examination was normal except for the non-tender, fluctuant and non-trans-illuminating lump measuring 3cm×5cm in size situated at the left occipito-parietal area of the head (Figures 1 and 2).



Figure 1: Lump over left occipito-parietal region of head



Figure 2: Posterior view of lump present over left occipito-parietal region of head. Arrows indicate the margin of the lump

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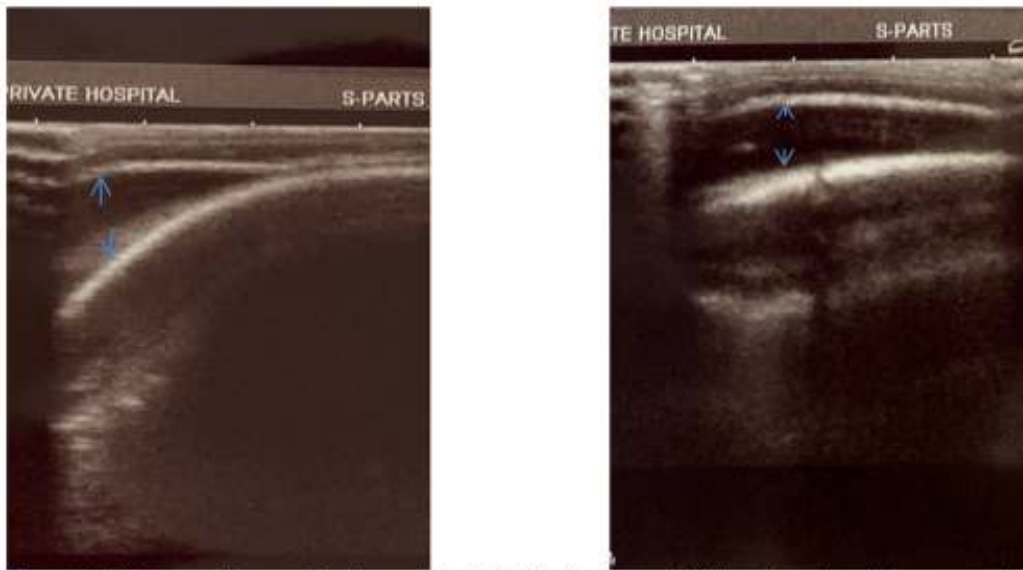
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The lump was crossing the suture lines and the scalp over the lump was normal. There were no features suggestive of non-accidental injury (NAI). Her full blood count revealed a haemoglobin of 11.2g/dl, platelet count of 230,000/ml and a total white blood cell count of 10,300/ml. Her prothrombin time (PT), activated partial thromboplastin time (APTT) and international normalized ratio (INR) revealed 12 seconds (normal range 11–15 seconds), 29 seconds (normal

range 25–35 seconds) and 1.0 (normal range 0.9 - 1.1) respectively. Skull radiograph did not reveal any fractures. Ultrasound scan (USS) of the scalp and brain revealed an anechoic fluid collection underlying the epicranial aponeurosis and superficial to the periosteum of the left parietal and occipital bones of the skull suggestive of sub-aponeurotic fluid collection (Figure 3). Ultrasonically, brain and skull were found to be normal



**Figure 3:** Ultrasound images showing anechoic fluid collection underlying the epicranial aponeurosis and superficial to the parietal-occipital lobe suggestive of sub-aponeurotic fluid collection.

Clinical, haematological and radiological features were compatible with the diagnosis of SSFC in infancy. Parents were reassured on the benign nature of this lump. Follow up review of this baby after 6 weeks revealed spontaneous resolution.

### Discussion

The exact aetiology of SSFC is yet to be found, but it may be associated with traumatic delivery<sup>4,5</sup>. Complete history and examination would help the clinician to differentiate SSFC from other types of scalp lumps. Examination of fluid collection in the sub-aponeurotic space is characteristically felt as an ill-defined, mobile and fluctuant lump which crosses the suture lines. Fluid taken from needle aspiration of SSFC revealed sero-sanguineous fluid which was sterile<sup>4</sup>. Despite the uncertainty regarding aetiology, almost all cases described in the literature spontaneously resolved over several weeks to months<sup>1,4,5</sup>. Awareness of this relatively rare but distinctive cause of scalp swelling would prevent the undue parental stress and anxiety and avoid extensive investigations.

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