

Clinical Image

Scalp Swelling in a 10 Week Old Infant

Raffaella Armiento^{1*} and Wei Qi Fan²¹General Paediatrics, Royal Children's Hospital, Australia²General Paediatrics, Northern Health, Australia

CLINICAL IMAGE

A 10 week old infant presented with a posterior scalp swelling which had increased in size over 1 week. She was otherwise well, thriving and afebrile. She was born at 39+5/40 via ventouse extraction and developed a moderate-sized Subgaleal haemorrhage after delivery. She was observed in the Special Care Nursery for 48hrs and no intervention was required. The Subgaleal haemorrhage had resolved by 1 week of age.

At presentation, there was a fluctuant, non-tender scalp swelling with visible fluid thrill on the posterior aspect of the scalp. It crossed the sagittal suture but was contained inferiorly by the lambdoid suture. It was non-tender and there was no overlying erythema. Fontanelles were normotensive. The remainder of the examination was normal. There was no history or signs of trauma. Full blood examination (FBE) and coagulation studies were normal. Ultrasound showed a 7.9X1.1X4.9 hypochoic collection.

Clinical and radiological features were consistent with a diagnosis of subaponeurotic (or subgaleal) fluid collection (SFC).

SFC is a rare and benign entity that is poorly understood [1]. It is a collection of presumed serosanguinous fluid in the subaponeurotic space [1]. There have been 19 previously reported cases on PubMed [1]. Unlike Subgaleal haemorrhage, SFC occurs in infants beyond the neonatal period [2]. Features of SFC that are clinically distinct from other scalp swellings include (a) later presentation, (b) ill-defined margins that are not confined by suture lines, (c) high mobility and (d) fluctuance with fluid thrill [3]. Infants are systemically well [3]. SFC is a clinical diagnosis and investigations are not routinely required unless there is diagnostic uncertainty [1]. If performed, ultrasound may be used to confirm the location of the fluid and shows a compressible collection of low echogenicity, without septations or a cyst wall [2]. MRI provides the most detailed information, including the nature of the fluid [2]. Skull X-ray may be used to exclude fractures [3]. Important differential diagnoses include non-accidental or accidental injury leading to subaponeurotic (subgaleal) haemorrhage, coagulation disorders, neonatal subaponeurotichaemorrhage after traumatic delivery and extracerebral fluid collections including cephalhaematoma and caput succaedaneum [3].

***Corresponding author**

Raffaella Armiento, Royal Children's Hospital, 50 Flemington Rd Parkville, Vic 3051, Australia, Phone: +61421527022; Email: raffaella.armiento@rch.org.au

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Figure 1 Posterior scalp swelling.

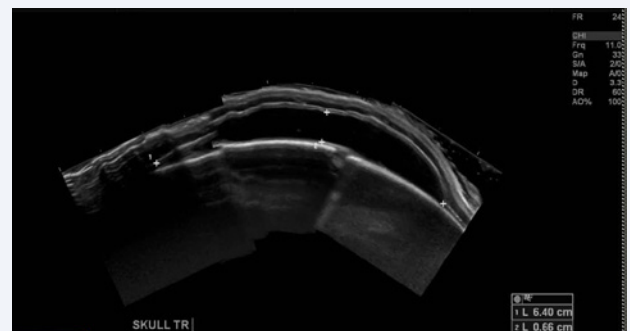


Figure 2 Ultrasound demonstrating a hypochoic collection in the subaponeurotic space.

Reports of fluid aspiration have identified the contents of SFC as Serosanguinous fluid [1]. Aspiration is however not clinically indicated; it is not required for diagnosis, does not hasten resolution and also carries the risk of infection [3]. Of the 19 reported cases of SFC in the literature, 5 had fluid aspirated, all of which had sterile, serosanguinous fluid [1]. Interestingly, in 3 cases, the fluid was positive for β 2-transferrin, found exclusively in CSF [2]. The origin of CSF in the collections was uncertain and the authors proposed possible microfractures or disruption of veins connecting venous sinuses [2]. Additionally, in the 3 cases presented by Petraglia et al, imaging and clinical findings indicated the scalp swellings were consistent with CSF [4].

The aetiology of SFC is unknown [4]. In a review of published cases, Vaibhab showed that there is a strong association with instrumental delivery by ventouse or forceps, as is the case with this presentation [3]. A postulated mechanism is a small subaponeurotic bleed at time of birth, initially masked by scalp swelling and moulding [4]. This may subsequently liquefy, with further exudative ooze causing the delayed swelling [4]. This is the first reported case with a subgalealhaemorrhage present immediately after birth. Another potential association is the use of scalp probes, which did not occur in this case [4].

SFC is an Important entity for clinicians to recognize and manage appropriately, as no specific investigation or treatment is needed. SFC is a benign condition that spontaneously resolves over Time without intervention [1]. Management is conservative and resolution has been reported between 3-24 weeks – on

average 3-4 weeks after presentation [3].

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