Commentary

Subdural hygroma (SDG) is a common post-traumatic lesion and accumulation of cerebrospinal fluid (CSF) in the subdural space after head injury is called as traumatic subdural hygroma (TSHy) which are early lesions and can be detected in the first 24 h after trauma.[1,2] Depending on the liquid composition or image features these collections are also called as traumatic subdural effusion (TSE) or external hydrocephalous (EHP).[3] Incidence of subdural collections after trauma ranges from 7% to 12%.[4] The incidence of this complication rises to 21-50% of head injury patients if a decompressive craniectomy (DC) is performed.[5]

Though both are characterized by collections in the subdural space, traumatic subdural hygroma is actually due to subarachnoid tear leading to direct CSF communication where as subdural effusion is collection of fluid due to parenchymal and vascular injury.[3]

Although electron microscopy studies have shown that there is no dead space between the dura and arachnoid layers, any trauma or the surgery breaks the inner layer of the dura, and CSF will fill this space between dura and arachnoid layers.[6,7] Even trivial trauma can cause a separation of this dura–arachnoid interface, which is considered as the basic requirement for the development of a SDG.[1] Fluid collection may also develop by a passive effusion if the brain shrinks due to brain atrophy.[1,8] Hence, extra cerebral collections can be seen in two conditions, brain atrophy and SDG.[8]

Study has shown that in those cases of cerebral atrophy, cortical veins and their branches traversing had widened cerebrospinal fluid spaces over the cerebral convexities and these visualization of cortical veins and their branches within fluid collections at the cerebral convexities were called as 'the cortical vein sign' which was not seen in SDG.[8]

Few SDG can become chronic subdural hematomas and still surgery is rarely required as outcome is closely related to the primary head injury and not to the SDG itself.[1] But few of the collections after decompressive craniotomy can become symptomatic and may need evacuation for which cranioplasty might be the definitive solution.[3]

Though it was a mistaken identity, the authors in their article 'Dreaded complications of mistaken identity-hygroma vs effusion following decompressive craniotomy' honestly described an eye opening experience to all clinicians in understanding the importance in rightly identifying these complications following surgery.[9] Clinical course and radiological features are important parameters in differentiating hygroma from effusion/hematoma and clinician needs to take proper clinical judgment regarding intervention as latter needs early recognition and if needed prompt treatment. As author describes, a repeat brain imaging should be considered before planning for bone flap replacement and as Mc Cluney *et al*.[8] described 'the cortical vein sign' may be of real help in ruling out hygroma. A large data or prospective study is required and others with similar cases should share their experience.

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