

## Commentary

In the article “Subependymal Hemorrhage following drainage of Chronic Subdural Hematoma: Probable causative mechanisms and prevention strategies”<sup>[1]</sup> the authors report a case of a 65-year-old man who presented intracerebral hematoma (ICH) following drainage of subdural hematoma, fortunately with good outcome. This complication should be kept in mind in the event of any neurological deterioration in patient who otherwise underwent a good evacuation of the chronic subdural hematoma (SDH) as we saw with this patient. The case highlights the potential risk of the occurrence of spontaneous ICH after rapid evacuation of subdural hematoma, the possible pathogenic mechanisms and how to prevent this unfavorable complication.

Chronic SDH is defined as hematoma with duration greater than 3 weeks;<sup>[2]</sup> surgical management of symptomatic SDH is the gold-standard method of treatment. However, there remains a lack of consensus in the surgical technique and peri-operative management. The most commonly used surgical approaches include: Twist-drill craniostomy, one or two burr holes craniectomy, and craniotomy.<sup>[3-5]</sup> Chronic SDH is subject to post-operative complication in 5 to 10% of the cases, these complications included recurrence of hematoma in 8%, empyema, epilepsy, tension hydrocephalus and intracerebral hematoma.<sup>[6]</sup>

Several theories have been described to explain the occurrence of ICH after evacuation of chronic SDH but remains unclear. In recent article, Cohen-Gadol *et al.* report a case of remote contralateral intraparenchymal hemorrhage following evacuation of chronic SDH by two burr holes and a subdural drain was placed to facilitate further evacuation of subdural fluid and cerebrospinal

fluid (CSF). However, no convincing mechanism for occurrence of this remote hemorrhage was provided. The authors concluded that aggressive CSF overdrainage most likely led to acute severe intracranial hypotension. This process placed the contralateral bridging veins under tension, causing their collapse and ultimately resultant venous insufficiency and hemorrhagic infarction.<sup>[7]</sup> ICH after evacuation of chronic SDH may be caused by a sudden increase of cerebral blood flow following rapid decompression, combined with defective auto-regulation, fragile cerebral vessels, labile hypertension and hemorrhage into missing areas of contusion.<sup>[8]</sup>

It is known that rapid decompression of chronic SDH can increase the amount of ICH due to rapid dynamic intracranial change. To avoid this undesirable complication, it is recommended slow evacuation of hematoma.<sup>[1,5,6,8]</sup>

Chronic SDH is a common pathology in neurosurgical practice. The surgical management is usually simple but when complicated by ICH, it can become fatal. Prevention involves a slow and gradual evacuation of hematoma.

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