Commentary

Savardekar and Salunke presented a very interesting case report of a seldom complication after evacuation of a chronic subdural hematoma (cSDH).[1] A 65-year-old male suffering from headache for 10 days underwent an uneventful operation and developed an ipsilateral bleeding immediately post-surgery. Based on a normal coagulation and stable hemodynamics several causative mechanisms are discussed.

The most probable mechanism is that a rapid intraoperative parenchymal shift damaged vessels at the boundary layer between the intracranial solid and liquid components. Therefore, this event should be considered as a technical complication. The authors performed two burr holes, irrigated until the hematoma was washed out and kept the dural opening patent instead of inserting a drainage—so far a well-known procedure.

The hematoma fluid was under high pressure and drained off uncontrolledly, which is in the nature of this intervention. Only an intermittent covering and stepwise drainage, as the authors suggested, would have prevented from this bleeding.

It should be considered that in the absence of vascular diseases and brain atrophy the brain can still be expandable at 65 years.[2,3] This is aggravated by a relatively short time of the space occupying effect of the cSDH, because the clinical symptoms lasted only for 10 days. Intraoperatively the proof of a re-expanding brain is given by the high pressure, under which the fluid has been drained.

Regarding to the surgical procedure following strategy has become apparent: The first-line treatment for most cSDH is a burr hole craniostomy. In contrast to a twist drill craniostomy burr holes have a lower reoperation rate and offer the best cure to complication ratio.[4,5] Santarius found a significant advantage for the use of a drain compared to a sole burrhole craniostomy. Because of a significant reduction of recurrence this randomized trial was even stopped early.[6]

Further, residual free air impedes brain from re-expanding, too.[3]

Thus, a closed-way technique[7] avoids to get air drawn into the subdural space. The surgical approach should be over the thickest part of the hematoma. Additionally the patient is positioned in a way, that the single burr hole comes to the highest point in order to avoid pneumocephalus again.

Despite the rarity of such a complication this article encourages surgeons not to underestimate a beginners operation.

Stephan Emich

Department of Neurosurgery, Christian Doppler Klinik, Salzburg, Austria

Address for correspondence:
Dr. Stephan Emich,
Department of Neurosurgery, Christian Doppler Klinik, PMU Salzburg, Ignaz Harrer Street 79, Salzburg - 5020, Austria.
E-mail: s.emich@salk.at

References

1. Savardekar A, Salunke P. Subependymal Hemorrhage following drainage of chronic subdural hematoma. Probable causative mechanisms and prevention strategies. J Neurosci Rural Pract 2015;6:252-54.
2. Sack I, Beierbach B, Wuerfel J, Klatt D, Hamhaber U, Papazoglou S, *et al*. The impact of aging and gender on brain viscoelasticity. Neuroimage 2009;46:652-7.
3. Mori K, Maeda M. Surgical treatment of chronic subdural hematoma in 500 consecutive cases: Clinical characteristics, surgical outcome, complications, and recurrence rate. Neurol Med Chir (Tokyo) 2001;41:371-81.
4. Weigel R, Schmiedek P, Krauss JK. Outcome of contemporary surgery for chronic subdural haematoma: Evidence based review. J Neurol Neurosurg Psychiatry 2003;74:937-43.
5. Lega BC, Danish SF, Malhotra NR, Sonnad SS, Stein SC. Choosing the best operation for chronic subdural hematoma: A decision analysis. J Neurosurg 2010;113:615-21.
6. Santarius T, Kirkpatrick PJ, Ganesan D, Chia HL, Jalloh I, Smielewski P, *et al*. Use of drains versus no drains after burr-hole evacuation of chronic subdural haematoma: A randomised controlled trial. Lancet 2009;374:1067-73
7. Tosaka M, Sakamoto K, Watanabe S, Yodonawa M, Kunimine H, Aishima K, *et al*. Critical classification of craniostomy for chronic subdural hematoma; safer technique for hematoma aspiration. Neurol Med Chir (Tokyo) 2013;53:273-8.

Access this article online	
Quick Response Code:	Website: www.ruralneuropractice.com