Surgery is a traditional method to remove the hematomas, but it carries a significant risk of recurrence and poor outcomes. Non-surgical treatment has been recently considered effective and safe for some patients with CSDH. However, it is a challenge to speculate which part of patients could obtain benefits from non-surgical treatment.

A prediction model was established based on the data from a randomized clinical trial, which enrolled 196 patients with CSDH from February 2014 to November 2015. The following subjects were extracted: demographic characteristics, medical history, hematoma characters in imaging at admission, and clinical assessments. The outcome was self-absorption in the 8th week after admission. A least absolute shrinkage and selection operator (LASSO) regression model was implemented for data dimensionality reduction and feature selection. Multivariable logistic regression was adopted to establish the model, while the experimental results were presented by nomogram. Discrimination, calibration, and clinical usefulness were used to evaluate the performance of the nomogram. A total of 60 consecutive patients were involved in the external validation, which enrolled in a proof-of-concept clinical trial from July 2014 to December 2018.

Results: Diabetes mellitus history, hematoma volume at admission, presence of basal ganglia suppression, presence of septate hematoma, and usage of atorvastatin were the strongest predictors of self-absorption. The model had good discrimination [area under the curve (AUC), 0.713 (95% CI, 0.637-0.788)] and good calibration ($p = 0.986$). The nomogram in the validation cohort still had good discrimination [AUC, 0.709 (95% CI, 0.574-0.844)] and good calibration ($p = 0.441$). A decision curve analysis proved that the nomogram was clinically effective.

Conclusions: This prediction model can be used to obtain self-absorption probability in patients with CSDH, assisting in guiding the choice of therapy, whether they undergo non-surgical treatment or surgery [1)].

Soleman et al., provide a systematic review of studies analysing the conservative treatment options and the natural history of cSDH. Of 231 articles screened, 35 were included in this systematic review. Studies evaluating the natural history and conservative treatment modalities of cSDH remain sparse and are predominantly of low level of evidence. The natural history of cSDH remains unclear and is analysed only in case reports or very small case series. “Wait and watch” or “wait and scan” management is indicated in patients with no or minor symptoms (Markwalder score 0-1). However, it seems that there are no clear clinical or radiological signs indicating whether the cSDH will resolve spontaneously or not (type C recommendation). In symptomatic patients who are not worsening or in a comatose state, oral steroid treatment might be an alternative to surgery (type C recommendation). Tranexamic acid proved effective in a small patient series (type C recommendation), but its risk of increasing thromboembolic events in patients treated with antithrombotic or anticoagulant medication is unclear. Angiotensin converting-enzyme inhibitors were evaluated only as adjuvant therapy to surgery, and their effect on the rate of recurrence remains debatable. Mannitol showed promising results in small retrospective series and might be a valid treatment modality (type C recommendation). However, the long treatment duration is a major drawback. Patients presenting without paresis can be treated with a platelet activating factor receptor antagonist (type C recommendation), since they seem to promote resolution of the haematoma, especially in patients with subdural hygromas or low-density haematomas on computed tomography. Lastly, atorvastatin seems to be a safe option for the conservative treatment of asymptomatic or mildly symptomatic cSDH patients (type C recommendation). In conclusion, the knowledge of the conservative treatment modalities for cSDH is sparse and based on small case series and low grade evidence. However, some treatment modalities seem promising even in symptomatic patients with large haematomas.

Randomised controlled trials are currently underway, and will hopefully provide us with good evidence for or against the conservative treatment of cSDH [2].

1)
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2)
Soleman J, Noccera F, Mariani L. The conservative and pharmacological management of chronic subdural haematoma. Swiss Med Wkly. 2017 Jan 19;147:w14398. doi: smw.2017.14398. PubMed PMID: 28102879.