

Chinese Neurosurgical Journal Reports Recovery from Subacute Subdural Hematoma using Non-Surgical Therapy

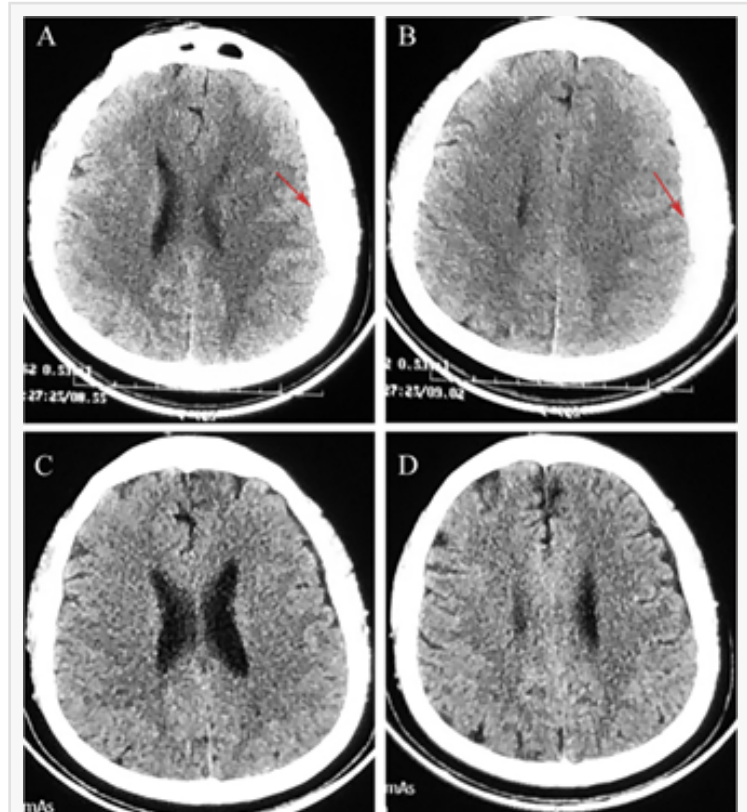
Researchers investigate the role of atorvastatin and dexamethasone as a non-surgical therapy for patients with subacute subdural hematoma

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/EINPresswire.com/ -- Patients with subacute subdural hematoma (sASDH) do not have an optimal non-surgical therapeutic strategy. In this study, scientists from Capital Medical University, Beijing, and Tianjin Medical University, Tianjin, present five case studies where patients received atorvastatin plus low-dose dexamethasone for sASDH. They report resolution of hematomas in all patients, with no recurrence or progression during the six-month follow-up period. This may be a potential alternative treatment for patients who prefer non-surgical therapy for sASDH.

Acute subdural hematoma (ASDH) is a common brain lesion resulting from traumatic brain injuries and is associated with high mortality and morbidity. Emergency surgery is the most common intervention for these patients; however, in

some cases, patients refuse to undergo surgery owing to social, religious, economic, or psychological reasons. In these cases, ASDH transitions to sASDH, and non-surgical interventions should begin immediately. However, there is no consensus in the medical community as to how to treat these patients non-surgically. To address this issue, researchers from Capital Medical University, Beijing, and Tianjin Medical University, Tianjin, China, set out to evaluate the efficacy of a combination of the drugs atorvastatin and dexamethasone in five patients who reported sASDH. This study was conducted under the guidance of Professor Rongcai Jiang and was



CT scan images of a female patient with a history of congenital hemophilia. The red arrows in panels A and B show ASDH in the left hemisphere mimicking skull thickening. CT scan revealed complete resolution of the hematoma after 2 months (panels C, D) aft

published in the prestigious [Chinese Neurosurgical Journal](#) on April 2, 2025.

Previous phase-II randomized proof-of-concept trials had reported that atorvastatin plus low-dose dexamethasone was effective in patients with chronic SDH. Based on this, Prof. Jiang explains the rationale of their study “Considering that sASDH and chronic SDH share highly similar pathological and clinical characteristics, we speculate that atorvastatin combined with low-dose dexamethasone may be safe and effective for sASDH patients initially selecting nonsurgical therapy”. Of the five patients, four were females, aged between 30 and 85 years old. The male patient was a 97-year-old who presented with convulsions and atrial fibrillation. The medical histories of these patients were also varied, ranging from hemophilia to rectal and bladder cancers. Two female patients reported post-operative and post-fall SDH. All patients received 20 mg/day oral doses of atorvastatin along with a low-dose dexamethasone, where 2.25 mg/day was administered in the first 2 weeks, 1.5 mg/day in the third week, and 0.75 mg/day in the fourth week. After receiving this treatment regimen of atorvastatin plus low-dose dexamethasone treatment, patients’ symptoms improved significantly, with no cases of recurrence or progression of symptoms even up to 6 months post-treatment.

The authors next searched research databases like PubMed and Google Scholar for literature regarding safety and efficacy of non-surgical treatments for patients with ASDH/sASDH. They pooled the results of these studies to record a total of 1374 patients with ASDH/sASDH who received initial non-surgical treatment. Of this, 13.1% patients had deteriorating symptoms and had to undergo delayed surgical treatments. 19.2% of the patients had poor prognosis, with 7% of the patients eventually dying. However, “more than 80% of the patients did not need delayed surgery; this further illustrates that patients with ASDH/sASDH can have a good prognosis with conservative treatment in certain cases”, comments Prof. Jiang on the literature survey performed by the team.

The mechanism of how atorvastatin improves ASDH symptoms still remains unclear. Rats with sASDH/ASDH when treated with atorvastatin showed significant reduction in the levels of pro-inflammatory cytokines present in the hematomas, removing local inflammation, promoting proliferation and maturation of blood vessels, and contributing towards the absorption of SDH. Further, this study reports that atorvastatin reverses edema in the dural lymphatic vessels of the brain, restores the damages in the membranes of the blood vessels in the brain, thereby promoting discharge of the hematoma rapidly.

The lack of an optimal non-surgical treatment for sASDH prompted this study. The literature review suggests a high mortality rate of 7% which calls for an urgent non-surgical treatment plan for these patients. This study, although conducted in a small local pool of patients with sASDH, shows that atorvastatin with low-dose of dexamethasone successfully resolves symptoms and removes hematomas without recurrence during a six-month follow-up period.

Overall, “the nonsurgical treatment strategy of atorvastatin plus dexamethasone is safe and effective. It is recommended to conduct further randomized proof-of-concept clinical trials to

verify its efficacy” Prof. Jiang concludes about the study.

Reference

Titles of original papers: Exploring conservative avenues in subacute subdural hematoma: the potential role of atorvastatin and dexamethasone as lifesaving allies

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