EDITORIAL

Effect of atorvastatin

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LIU et al. present a small prospective randomized trial of atorvastatin for chronic subdural hematoma (CSDH).¹ Patients treated with atorvastatin (n = 46) were less likely to require surgical intervention (43% vs 94%, p = 0.001), and when they did require surgery, the time to surgery was somewhat longer (17 vs 13 days, p = 0.018) than for those assigned to the control arm (n = 34). While the results are impressive, these data will certainly require confirmation in a larger multicenter trial. Unlike the present study, which randomized patients with stupor and hemiparesis, the larger future trial should probably focus on awake patients capable of following commands without a frank hemiparesis, as the data presented here suggest that even with atorvastatin, most stuporous hemiparetic patients will require surgery. As efforts proceed to randomize patients with less clinically symptomatic clots, careful attention should be paid to the anticipated effect size in order to develop a meaningful power analysis. Simply stated, placebo-treated patients without hemiparesis or confusion will likely require surgery less than 95% of the time, and the benefit of the treatment may be less than a 50% reduction in absolute relative risk. Instead of including 80 patients randomized 1.5:1, such a trial might require as many as 240 patients randomized 1:1. Given that there was no meaningful effect on long-term outcome, with all patients in both treatment arms doing very well at 6 months, the ethics of such a confirmatory trial should be more than manageable. It will also be interesting to examine recurrence rates in the confirmatory trial, as Liu et al. witnessed no recurrence in any patient during 1 year's follow-up, which is more than commendable.

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References

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Disclosures

The author reports no conflict of interest.

Response

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In addition to its cholesterol-lowering function, atorvastatin also has effects of reducing inflammation and promoting angiogenesis.^{1,2} Recently, it has demonstrated great success in terms of treating CSDH, but not all the drug-treated patients in that study were able to avoid surgery.³ That is why we conducted this prospective study; our aim was to identify the subgroup most sensitive to atorvastatin therapy. Our study shows that atorvastatin can promote the resolution of CSDH, especially for women with favorable admission MGS-GCS (Markwalder Grading Scale and Glasgow Coma Scale) scores. Surgery is recommended for patients with moderate or severe initial symptoms of elevated intracranial pressure. Medical treatment with atorvastatin based on careful follow-up may have clinical and economic benefits in CSDH patients. However, there are some substantial limitations in our study. Because of the small sample size, it is difficult to develop a meaningful power analysis with the anticipated effect size. Moreover, our study was not double blind, and thus it is potentially subject to sources of bias and variation. Randomized and blinded multicenter trials with larger sample sizes are still needed to confirm these results.

References

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