



The Impact of Aspirin and Antithrombotic Usage on the Outcomes after Aneurysmal Subarachnoid Hemorrhage: A Nationwide Analysis

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Introduction

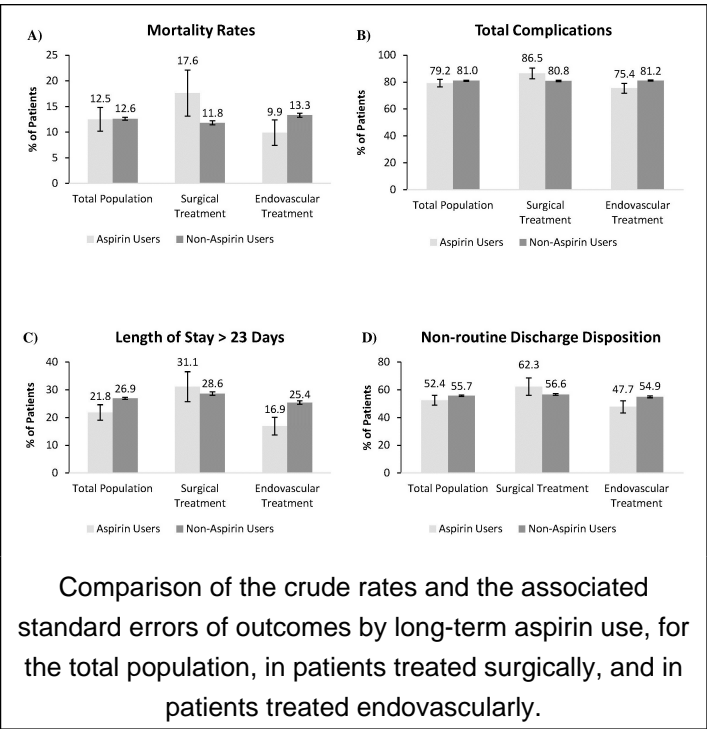
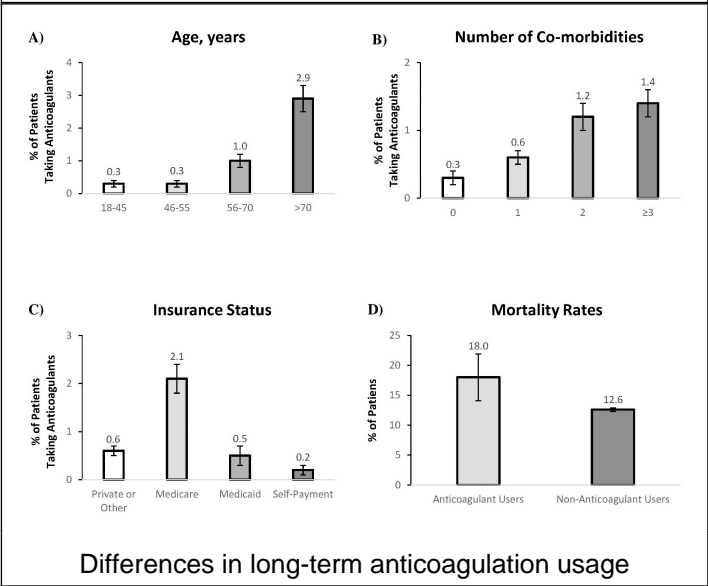
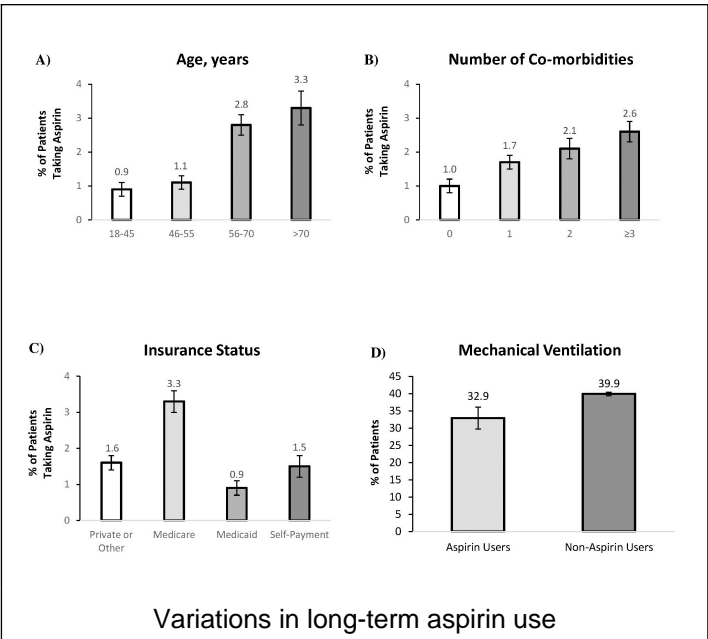
Potential therapeutic benefits to aspirin include a decreased risk of aneurysm rupture but must be weighed against the theoretical potential for greater hemorrhage volume if SAH occurs. This is the first nationwide analysis to evaluate the impact of long-term aspirin and anticoagulation on outcomes after SAH.

Methods

Data from the Nationwide Inpatient Sample (2006-2011) were extracted. Adult patients with a primary diagnosis of SAH who underwent microsurgical or endovascular aneurysm repair were included. Multivariate logistic regression was performed to calculate the adjusted odds of in-hospital mortality, the development of a post-procedural complication, of a neurologic deficit, and of a non-routine discharge for patients with long-term aspirin or anticoagulation usage. Covariates included patient age, gender, co-morbidities, primary payer, mechanical ventilation, treatment modality utilized for aneurysm repair, hospital bed size and teaching status. Subgroup analyses exclusively evaluated patients treated surgically or endovascularly.

Results

11,504 hospital admissions were examined. Both aspirin and anticoagulant users were significantly older and had a greater burden of comorbid disease ($p<0.001$). Length of hospital stay was significantly shorter ($p=0.01$) and the odds of a non-routine discharge lower (OR: 0.60, $p=0.002$) for aspirin users. In subgroup analyses, the benefits of aspirin were primarily seen in patients who underwent coiling. Among surgical patients, long-term aspirin use was associated with decreased odds of a venous thromboembolic event (OR: 0.12, $p=0.03$). Although the crude rate of in-hospital mortality was higher for long-term anticoagulant users (18.0% versus 12.6%), this difference was not significant in multivariate logistic regression models.



Conclusions

In this nationwide study, neither long-term aspirin nor anticoagulation usage was associated with differential mortality or complication rates after SAH. Aspirin use was associated with a shorter hospital stay and lower rates of non-routine discharge, with these benefits primarily seen in patients treated endovascularly.

References

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