

The effect of anti-thrombotics on the postoperative bleeding rate in patients undergoing craniotomy for brain tumor.

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OBJECTIVE: The peak prevalence of many brain tumors is in elderly patients. These patients are often treated with platelet inhibitors (PIs) or anticoagulants (ACs), creating a challenge for neurosurgeons concerning the perioperative management. The aim of this study is to analyze the effect of PI/AC treatment on the postoperative bleeding rates in patients undergoing craniotomy due to a brain tumor.

METHODS: Retrospective analysis of 415 consecutive patients undergoing craniotomy/craniectomy due to a brain tumor. Ninety-nine patients with PI/AC treatment (PI/AC group consisting of 64 PI, 29 AC, and six multiple) and 316 patients without PI/AC (control group) were primarily compared for hemorrhage rate. Secondary outcome measures were clinical outcome and mortality. The association between short preoperative discontinuation (≤ 5 days), early postoperative resumption time (≤ 5 days), as well as short total discontinuation time (≤ 5 days) of PI/AC and postoperative bleeding rates was analyzed.

RESULTS: Postoperative bleeding rates were comparable between the groups (12.2% and 13.5% in the PI/AC and control group, respectively; $p=.74$). The majority of bleeds were asymptomatic (85.2%). No significant difference in the postoperative mortality rate was observed (1.0% and 1.6% in the PI/AC and the control group, respectively; $p=.67$). Shorter discontinuation time of PI/AC was not significantly associated with higher postoperative bleeding rates (preoperative: 12.1% vs. 12.3%; $p=.94$, postoperative: 11.1% vs. 12.5%, respectively; $p=.87$, total: 16.7% vs. 12%, respectively; $p=.73$).

CONCLUSIONS: Patients treated with PI/AC undergoing craniotomy for the resection of brain tumor do not seem to have increased rates of postoperative bleeding or mortality. We did not find a significant correlation between short discontinuation time of PI/AC in the perioperative period and postoperative bleeding.

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