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News & Comments

Tranexamic Acid (TXA), an Appropriate Agent to Prevent Bleeding

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Clavicle fractures account for around 5-10% of all fractures, and they are the most prevalent site of fractures in the human body. The clavicles are truncal bones, not extremity bones, thus achieving haemostasis using tourniquets during clavicle fracture surgery is difficult. As a result, in open reduction and internal fixation of clavicle fractures, haemostasis is the primary concern, and medicines are frequently used to minimize intraoperative bleeding. Tranexamic acid (TXA) is a lysine-derived synthetic inhibitor of plasminogen activation that is increasingly employed in clinical practice. It binds to the lysine binding site of plasminogen with a high affinity, thus blocking the lysine binding site. TXA has been found in studies to reduce wound bleeding in patients safely and predictably and may even reduce mortality without causing significant safety issues.

In this study, they looked at preoperative and postoperative data from patients with clavicle fractures who had open reduction and internal fixation at their institution, as well as the clinical results of TXA in these patients.

The present study was carried out at the Department of Orthopaedics, the Affiliated Hospital of Shaoxing University. Fifty-eight patients with clavicle fractures who had open reduction and internal fixation at the institution between January 2018 and December 2019 were included in the study. After screening for inclusion and exclusion criteria, a total of 46 patients (20 males and 26 females) were chosen. All the people who were screened had clavicle fractures on one side. Based on preoperative and postoperative data, they were further separated into the observation group (TXA treatment, n = 23, 9 males and 14 females) and the control group (n = 23, 11 males and 12 females). The percentages of Red Blood Cells (RBC), Haemoglobin (Hb), and Haematocrit (Hct) were measured 72 hrs before surgery. The chi-square test (SPSS13.0 statistical software) was used to examine the enumeration data and $p<0.05$ was judged statistically significant.

The 46 individuals' demographic and clinical features were examined. In terms of age, sex, BMI, and preoperative blood transfusion, no significant differences were detected between the two groups. None of them had gotten a blood transfusion before surgery. There was no evidence of venous thrombosis, ischemic cerebral haemorrhage, hematoma, surgical site infection, or any problems. With a high satisfaction rate and 100% follow-up rate, all 46 patients were followed up at the outpatient clinic. The internal fixation did not weaken or dislocate in any of the patients after surgery. One patient's imaging revealed a good recovery one year after surgery during the follow-up period.

Surgical drains have been used in surgery for numerous years to evacuate body fluids, reducing the build-up of serous fluid, increasing wound healing, and lowering the risk of infection and seroma. In hip fracture surgery, TXA was found to be beneficial in minimizing erythrocyte transfusion. TXA medication and patient blood management reduced overall blood loss volume and transfusions in complete hip replacements. TXA and drainage regimen should be advised for lowering postoperative blood loss for open reduction and internal fixation of clavicle fractures, even if TXA is not useful in reducing bleeding in open reduction and internal fixation of clavicle fractures.

TXA is an effective and safe way to prevent clavicle fracture bleeding during open reduction and internal fixation without increasing complications. In patients with clavicle fractures, TXA helps to improve patient satisfaction with open reduction and internal fixation.

JOURNAL REFERENCE

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KEYWORDS

Tranaxemic acid, clavicle fractures, wound bleeding, mortality rate, patient satisfaction, internal fixation