The Efficacy of Intravenous Tanexamic Acid in One-stage Anterior Thoracic Tuberculosis Surgery

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Abstract

Background

Spinal Tuberculosis was the most affected region in bone tuberculosis. There were variant hemostatic medicines of different mechanisms reported in spinal surgery previously. The effect of Tranexamic Acid (TXA) in anterior spinal tuberculosis surgery is still obscure. The aim of current study is to elucidate the hemostatic effect of tranexamic acid in anterior thoracic tuberculosis surgery.

Methods

Retrospective study was performed with 169 thoracic tuberculosis patients underwent one-stage anterior operation. Eighty patients were performed TXA peri-operation prescription. Forty patients (Pre-operation group, Pre-OP group) started TXA after corpectomy and other forty patients (Intra-operation group, Intra-OP group) were started with the induction of anesthesia. The second dose was 3 hours after the first dose. Pre-operation, 1 day post-operation, and 1 week post-operation blood routine test and blood coagulation test were recorded. Hemoglobin(HGB) variance was the difference value between pre-operation HGB and post-operation HGB; Blood per level was the value of operation bleeding divided level. Health related quality of life parameters included Visual Analogue Scale score (VAS) and Oswestry Disability Index(ODI). Comparison study was performed among each groups. Correlation study was performed among each parameters in different groups.

Results

Compared to control group, TXA group showed significant decreased on Post-OP Bleeding, and increased on Post-OP HGB, Post-OP HCT and HGB variance. There were no significant differences among all parameters between Pre-OP group and Intra-OP group. Significant correlation were shown between operation bleeding and post-operation bleeding in control group while the correlation were not significant in TXA group, Pre-OP group and Intra-OP group. Operation bleeding was significantly correlated with Operation Level, Operation Time and HGB variance in all groups. Post-OP Bleeding was significantly correlated with HGB variance in control group, TXA group and Pre-OP group, except Intra-OP group. There were no significant difference among all groups, although VAS and ODI showed reduction post-operation.

Conclusions

Tranexamic acid can effectively preserve surgical hemoglobin loss and reduce post-operation drainage in one-stage anterior thoracic tuberculosis surgery. But the effect of reducing intra-operation bleeding is not significant. Health related quality of life is not influenced by TXA.

Full Text

Due to technical limitations, full-text HTML conversion of this manuscript could not be completed. However, the manuscript can be downloaded and accessed as a PDF.

Tables

Due to technical limitations, table 1, 2, 3, 4 is only available as a download in the Supplemental Files section.

Figures

Figure 1

Surgical procedure of one-stage anterior spinal tuberculosis. Figure 1 Surgical procedure of one-stage anterior spinal tuberculosis. The procedure including Rib resection, Abscess expose, Abscess debridement, and Internal fixation. Arrow: Para-spinal abscess.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [Table.pdf](#)