44531 - TRANEXAMIC ACID REDUCES BLOOD LOSS AFTER OFF-PUMP CORONARY ARTERY BYPASS GRAFTING: A DOUBLE BLIND PLACEBO CONTROLLED STUDY

Tulika Shinghal, Montreal General Hospital, Montreal, QC, Canada;

David Bracco, Montreal General Hospital;

Nicolas Noiseux, Hotel Dieu de Montreal;

Ignacio Prieto, Hotel Dieu de Montreal;

Fadi Basile, Hotel Dieu de Montreal;

T M Hemmerling, Montreal General Hospital;

INTRODUCTION:

The use of anti-fibrinolytics have been recently challenged in cardiac surgery (1). Aprotinin is effective in reducing blood loss but may carry some risks of anaphylactic reaction and post-operative complications. Tranexamic acid and amino caproic acid have weaker antifibrinolytic activities but seem not related to an increased risk of complications after cardiac surgery. However, one study has shown that in low risk for bleeding cardiac surgery, the use of tranexamic acid is no better than placebo in reducing significant blood loss (2). Off-pump aortocoronary bypass grafting (OPCAB) poses significantly less risk for bleeding in cardiac surgery in comparison to on-pump CABG. We therefore designed a pilot study investigating whether tranexamic acid significantly reduces blood loss after, performed in this hospital setting for 90% of all aortocoronary bypass grafting.

METHODS:

Local IRB approval was obtained for this study. 14 patients scheduled for OPCAB were prospectively enrolled in this prospective randomized double blind placebo controlled study. 8 received 100 mg/kg tranexamic acid over 20 minutes after induction and 6 other received placebo. A strict transfusion policy with a threshold of 70 g/L in patients younger than 80 years and 80 g/L in older patients was applied. Blood losses and blood component use were recorded from anesthesia induction up to 24h after the surgery.

RESULTS:

Patient were comparable in pre-operative risk factors, received a mean of 3.5 bypasses with a cumulative ischemia time of 18 minutes, a surgery time of 135 minutes. Peroperative blood losses were comparable but patients receiving tranexamic acid had significantly less post-operative bleeding at 4h ($p < 0.05$), 24h ($p < 0.05$).

Mean total blood loss amounted 572 ml in the tranexamic acid group versus 966 ml in control patients. The power of the present study was above 80%. No patient received blood products and no postoperative complication was noted.

DISCUSSION:

The present cohort lack power to detect rare post-operative complications and larger scale studies in OP-CABG are suggested. Tranexamic acid (100 mg/kg at induction) significantly decreases blood loss after OPCAB

- 1 Anesth Analg. 2006; 103: 1067-70
- 2 Eur J Cardiothorac Surg. 2004; 26: 311-7.