# Tranexamic acid in obstetrics: Encouraging data in anemic parturients

In this issue of Saudi Journal of Anesthesia, Goswami *et al.* described the bleeding reduction and blood sparing of two doses of tranexamic acid (TA) used prophylactically before elective caesarean section (CS) in anemic patients.[1]

Because coagulopathy and hyperfibrinolysis is often associated with tissue injury and a clear predictor of bad outcome, antifibrinolytic drugs may be of interest in the management of massive bleeding. TA is a synthetic analog of lysine that blocks the interaction between native fibrin and activated plasminogen; thus, inhibiting the dissolution of the clot. TA has been used for long as an efficient drug to reduce the blood loss and spare blood products in the perioperative period or in menorrhagia.[2] Beneficial effects of the preventive use of TA have been established in large randomized blinded trials in major cardiac or orthopedic surgery. Henry *et al.* analyzed the published trials and established the demonstration of the transfusion need reduction.[3] Shakur *et al.* demonstrated a reduction of overall mortality and massive bleeding related mortality in trauma patients receiving an early dose of 1 g TA without any adverse effects.[4]

Post-partum hemorrhage remains the leading cause of maternal mortality and morbidity, especially by severe post-partum anemia.[5] In ongoing post-partum hemorrhage , a high dose of 4 g TA reduces the blood loss, duration of bleeding, and transfusion need in a randomized controlled trial.[6] Ferrer *et al.* provided a meta-analysis of all randomized trials published in elective CS.[7] The coherence of the trials was high: A preventive use of various doses of TA before CS reduced slightly, but significantly the bleeding volume and hemorrhagic CS rate.[7] In this forthcoming issue of the journal, the randomized double-blind placebo controlled trial compared two doses regimens of 10 mg/kg or 15 mg/kg TA administered prophylactically in anemic parturients undergoing CS. The choice of this sensible population increased the clinical pertinence of the study because of the blood loss reduction, even limited to 100 mL, avoided packed red blood cell transfusion in the two TA groups compared to the placebo group. The 15 mg/kg dose showed a greater benefit on bleeding and post-partum hemoglobin level than the 10 mg/kg dose. The World Maternal Antifibrinolytic Trial (WOMAN) trial, large international randomized placebo controlled, is yet running to compare the impact of a 1 g dose of TA at the onset of post-partum bleeding on mortality.[8] In obstetrics, TA use was generally well-tolerated: The major adverse effects described were rare and the minor adverse effects were moderate (nausea and visual disturbances). TA has the clear advantage of being an inexpensive, stable, off-the shelf, and easy-to-use drug. Because severe post-partum anemia remains a woman health challenge and blood products availability is sometimes limited, the use of TA should be considered in selected anemic population.

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