Summary

Cesarean section (CS) rate has increased to as high as 25 to 30% in many areas of the world. CS is one of the commonest operation in obstetric. Delivery by CS can cause more complications than normal vaginal delivery and one of the most common complications is postpartum bleeding, which can be life threatening. To reduce maternal mortality and morbidity caused by bleeding, it is important to reduce the extent of bleeding during and after CS.

To control the bleeding after CS, some medications such as oxytocin, prostaglandins (E1, E2 and F2α) and methyl ergo-metrine have been used.

Tranexamic acid is a synthetic derivative of the amino acid lysine that exerts its antifibrinolytic effect through the reversible blockade of the lysine binding sites on plasminogen molecules.

The antifirinolytic effect of tranexamic acid results from the formation of a reversible complex of the drug with plasminogen. Human plasminogen contains lysine binding sites that are important for interactions not only with synthetic antifibrinolytic amino acid derivatives but also with α2-antiplasmin and fibrin.

Tranexamic acid has been routinely used for many years to reduce hemorrhage during and after surgical procedures, such as coronary artery bypass, scoliosis surgery and knee arthroplasty. It has been shown to be very useful for reducing blood loss and blood transfusion. There are some reports on the use of tranexamic acid in prevention of blood loss in many gynecologic diseases such as menorrhagia and also CS.

The aim of this study is to determine the efficacy of using tranexamic acid preoperatively on decreasing intra- and two hours post-operative blood loss after elective cesarean sections.

The current study was a randomized clinical trial conducted at Kom Hamada Maternity Hospital, 100 women were included in this study and all were planned for elective cesarean section. They were randomly divided into

two groups: study group (n=50) including women who received 1g of tranexamic acid intravenously 10minutes before the operation and control group (n=50) including women who received placebo in the form of 10ml normal saline solution intravenously.

All the included women were with singleton pregnancy and gestational age from 37-41 weeks with regular antenatal care, medically free with no allergy to tranexamic acid, they were planned for elective cesarean section and after women consent, the caesarians were done by the same surgeon and spinal anaethesia was used for all the women.

In the current study we excluded any medical or surgical problems involving the heart, liver or kidney, neurological disease, blood disorders, history of thromboembolic disorders or pregnancy complications such as preeclampsia, multiple pregnancies, macrosomia or polyhydramnios. We also excluded any case of placenta previa.

The current study showed that there was significant difference in the amount of blood loss during and after cesarean section with tranexamic acid group. So tranexamic acid may be used routinely in CS to decrease the amount of blood loss during an after CS. In our study there were no side effect with tranexamic acid administration