

THE COMPARATIVE EFFICACY OF INTRA-ARTICULAR AND INTRA-VENOUS TRANEXAMIC ACID IN REDUCING BLOOD LOSS FOLLOWING PRIMARY TOTAL KNEE ARTHROPLASTY

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Purpose- To compare the safety and effectiveness of Intra-articular Tranexamic Acid versus Intravenous Tranexamic Acid in the reduction of peri-operative and post operative blood loss, its effect on post operative hemoglobin value and requirement of blood transfusion if any.

Materials and methods: This prospective randomized study included 100 patients (70 females, 30 males) who underwent primary total knee replacement for primary or secondary osteoarthritis. The patients were randomized into two groups as per inclusion and exclusion criteria according to method of TA administration (1.5 gm in 50 cc of saline); with 50 patients in each group.

Observation and results: The mean age of the patients was 61.72yrs (range 53 to 72 yrs). There were 70 females and 30 males (intra-articular group 32 females and 18 males, intra-venous group 38 females and 12 males). The intra operative blood loss ranged from 400ml to 750ml in intra-venous group with mean value of 570.4 ± 13.2 ml compared to intra articular group with range between 350ml to 800ml with mean value of 559.6 ± 13.7 ml. The blood loss in drain ranged from 200ml to 550 ml in intra venous group with mean value of 369.2 ± 13.2 ml compared to intra articular group with range between 150 ml to 400 ml with mean value of 220.4 ± 8.7 ml. The total blood loss in intra venous group ranged from 750 ml to 1130 ml with mean value of 939.6ml compared to intra-articular group with range between 590 ml to 1000 ml and mean loss equal to 780 ml.

Conclusion; Intra-articular use of tranexamic acid is as effective as intra-venous use to control post operative bleeding in total knee replacement and with its low systemic absorption, it forms a

good alternative to the traditional intra-venous route minimizing systemic side effects and it may also be used as an adjunct, increasing the potency while keeping the safety in check.

Keywords- Total Knee Replacement, Primary Osteoarthritis, Secondary Osteoarthritis, Intraarticular, Intravenous Tranexamic acid.