REG. NO: D7635654-AFINJ. JOHP-ISSN:2348-7704

HEB

Journal of Hospital Pharmacy
An Official Publication of Bureau for Health & Education Status Upliftment
(Constitutionally Entitled As Health-Education, Bureau)

JOHP

Role of Tranexamic Acid on Perioperative Blood Loss in Patients Undergoing Hip Fracture Surgeries

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ABSTRACT:

Background & Aim:

Approximately 1.6 million hip fractures occur worldwide each year with morbidity and mortality rates of up to 20-24%.Peri-operative blood loss is the most common cause. Of which more than 50% require blood transfusion. To minimize the risk of transfusions and peri-operative morbidity anti-fibrinolytics such as aprotin, aminocaproic acid and tranexamic acid are used but aprotin has limitations such as allergies, thrombosis, nephrotoxicity and aminocaproic acid is less effective and more expensive. In terms of better efficiency, safety and less cost, tranexamic acid, a synthetic derivative of amino acid-lysine is a better alternative available to reduce perioperative blood loss.

The aim of this study is to evaluate the efficacy of intra-operative tranexamic acid on perioperative blood loss and efficiency in reducing blood transfusion for hip fractures surgeries.

Methods:

A total of 60 patients were randomized in two study groups of 30 each. Group T received Tranexamic acid 10mg/Kg body weight diluted to 50ml solution and those in Group P received physiological saline of 50ml intravenous. Microsoft excel 2007 and IBM SPSS statistical software version 21 were used for statistical analysis.

Results: Intra and post-operative blood loss and reduction in hemoglobin concentration are significantly less in tranexamic acid group than in the physiological saline group.

Conclusion: Tranexamic acid of 10mg/Kg body weight reduces both intra and post-operative blood loss, reduction of hemoglobin percentage and reduction of peri-operative blood transfusions with no complications in hip fracture surgeries.

Key words: Tranexamic acid, blood loss, hemoglobin percentage, blood transfusions.

Group P	Group Physiological saline	THA	Total Hip Arthroplasty
Group T	Group Tranexamic acid	TKA	Total Knee Arthroplasty
ASA	American Society of Anaesthesiologists	AIDS	Acquired immune deficiency syndrome
NPO	Nil per Oral	VTE	Venous thrombo-embolic events
Hb	Hemoglobin	MI	Myocardial Infarction
Ht	Hematocrit	CVA	Cerebro-vascular accident
I.V	Intra Venous	TIA	Transient Ischemic accident
I.M	Intra Muscular	U	Unit
TXA	Tranexamic Acid	pRBC	Packed Red blood cells
ICMR	Indian council of medical research		
CONSORT	Consolidated Standards of Reporting Trials		
TeACH-R	Tailored education to assist label comprehension and health literacy		
CRASH	Clinical Randomisation of an Antifibrinolytic in Significant Haemorrhage		
AAHKS	The American Association of Hip and Knee Surgeons		
AAOS	American Association of Orthopedic Surgeons		
SPSS	Statistical Package for the Social Sciences		

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Website:http://www.journalofhospitalpharmacy.in

Received on 08/11/2020

Accepted on 29/11/2020

Quick Response Code: