15. ULUSAL ACİL TIP KONGRESİ

6TH INTERCONTINENTAL EMERGENCY MEDICINE CONGRESS

6TH INTERNATIONAL CRITICAL CARE AND EMERGENCY MEDICINE CONGRESS

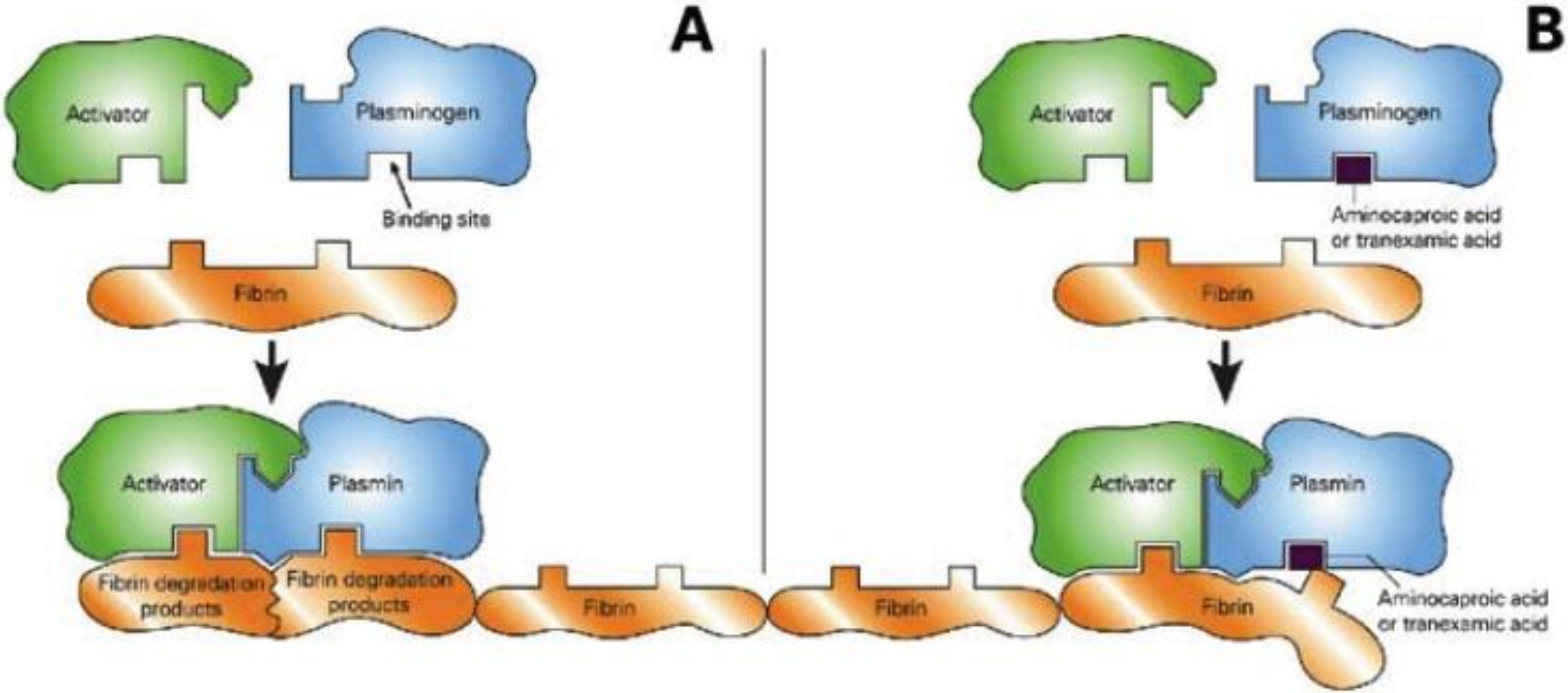
Acilde Yeni Star:Traneksamik Asit

Prof. Dr. Abdulkadir Gündüz

KTÜ Tıp Fakültesi Farabi Hastanesi Acil Tıp AD

Sunum planı

- Farmakolojik etki mekanizması
- Tarihçe
- Yan etki ve kontrendikasyonlar
- Endikasyonlar
- Yapılmış ve yapılmakta olan çalışmalar
- Son söz..



A **Normal fibrinolysis occurs by binding of plasminogen to fibrin and subsequent activation to plasmin via the interaction with plasminogen activator. Plasmin bound to fibrin results in degradation of fibrin into fibrin degradation products.**

B **Antifibrinolytic medications such as aminocaproic acid and tranexamic acid bind to the site where plasminogen binds to fibrin, thereby preventing activation of plasminogen on the surface of fibrin. Fibrinolysis is therefore blocked. (Adapted with permission.[48])**

- 1966: Traneksamik asit keşfi
- 1968: Klinikte ilk kullanım
- 1986: Hemofilide intravenöz kullanımı için FDA onayı
- 2009: Menstüral kanamada oral kullanım için FDA onayı

- Günümüzde Türkiye’de;

250 miligramlık ampul ve 500 miligramlık tablet formu bulunmaktadır.

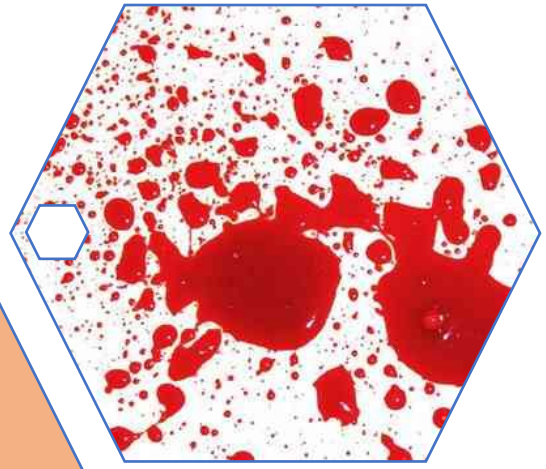
- 1 ampul yaklaşık olarak 20 tl
- 1 kutu tablet yaklaşık olarak 40 tl dir.

- Gis yan etkileri
- Görsel bozukluklar
- Hipotansiyon
- Nöbet

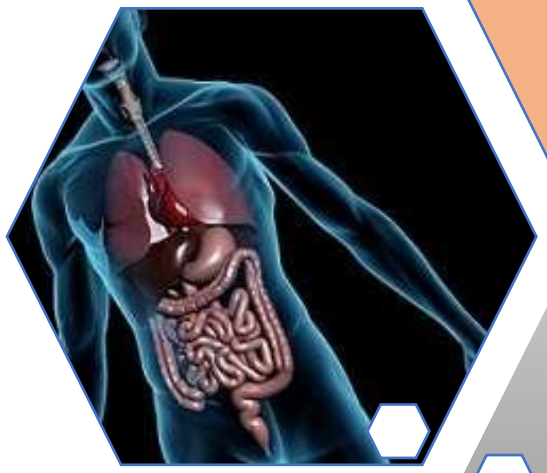
- Hipersensitivite
- Edinilmiş renk körlüğü
- SAK, DİC
- Hiperkoagülasyon

- **Etki başlangıcı:** 5-15 dakika
- **Etki süresi:** 3 saat
- **Dağılımı:** %3 oranında plazma proteinlerine bağlı olarak (plazminojen)
- **Yarı ömrü :** 2-11 saat
- **Yükleme dozu:** 1 gram 10 dakikada intravenöz
- **İdame dozu:** 1 gram 1000 cc izotonik mayii içerisinde 8 saatte intravenöz

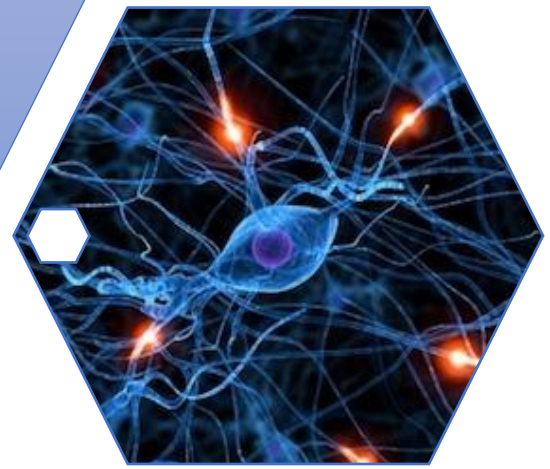
- %95 oranında böbreklerden değişmeden atılır.
- Bu nedenle böbrek yetmezliğinde kreatinin seviyesine göre doz ayarlaması gerekir.
- Karaciğer yetmezliğinde herhangi bir doz ayarlanmasına gerek yoktur.
- Kan beyin bariyerini aşar. Travmatik beyin hasarındaki potansiyel yararlı etkisi bu sebeple olur.



Kanama
%45



Santral sinir sistemi yaralanması
%41



Organ yetmezliği
%10

The Deadly Triad

Military Application of Tranexamic Acid in Trauma Emergency Resuscitation (MATTERs) Study

Jonathan J. Morrison, MB ChB, MRCS; Joseph J. Dubose, MD; Todd E. Rasmussen, MD; Mark J. Midwinter, BMedSci, MD, FRCS

Objectives: To characterize contemporary use of tranexamic acid (TXA) in combat injury and to assess the effect of its administration on total blood product use, thromboembolic complications, and mortality.

Design: Retrospective observational study comparing TXA administration with no TXA in patients receiving at least 1 unit of packed red blood cells. A subgroup of patients receiving massive transfusion (≥10 units of packed red blood cells) was also examined. Univariate and multivariate regression analyses were used to identify parameters associated with survival. Kaplan-Meier life tables were used to report survival.

Setting: A Role 3 Echelon surgical hospital in southern Afghanistan.

Patients: A total of 896 consecutive admissions with combat injury, of which 293 received TXA, were identified from prospectively collected UK and US trauma registries.

Main Outcome Measures: Mortality at 24 hours, 48 hours, and 30 days as well as the influence of TXA administration on postoperative coagulopathy and the rate of thromboembolic complications.

Results: The TXA group had lower unadjusted mortality than the no-TXA group (17.4% vs 23.9%, respectively; $P=.03$) despite being more severely injured (mean [SD] Injury Severity Score, 25.2 [16.6] vs 22.5 [18.5], respectively; $P<.001$). This benefit was greatest in the group of patients who received massive transfusion (14.4% vs 28.1%, respectively; $P=.004$), where TXA was also independently associated with survival (odds ratio=7.228; 95% CI, 3.016-17.322) and less coagulopathy ($P=.003$).

Conclusions: The use of TXA with blood component–based resuscitation following combat injury results in improved measures of coagulopathy and survival, a benefit that is most prominent in patients requiring massive transfusion. Treatment with TXA should be implemented into clinical practice as part of a resuscitation strategy following severe wartime injury and hemorrhage.

Arch Surg. 2012;147(2):113-119. Published online October 17, 2011. doi:10.1001/archsurg.2011.287

Effects of tranexamic acid on death, vascular occlusive events, and blood transfusion in trauma patients with significant haemorrhage (CRASH-2): a randomised, placebo-controlled trial

*CRASH-2 trial collaborators**

Summary

Background Tranexamic acid can reduce bleeding in patients undergoing elective surgery. We assessed the effects of early administration of a short course of tranexamic acid on death, vascular occlusive events, and the receipt of blood transfusion in trauma patients.

Methods This randomised controlled trial was undertaken in 274 hospitals in 40 countries. 20 211 adult trauma patients with, or at risk of, significant bleeding were randomly assigned within 8 h of injury to either tranexamic acid (loading dose 1 g over 10 min then infusion of 1 g over 8 h) or matching placebo. Randomisation was balanced by centre, with an allocation sequence based on a block size of eight, generated with a computer random number generator. Both participants and study staff (site investigators and trial coordinating centre staff) were masked to treatment allocation. The primary outcome was death in hospital within 4 weeks of injury, and was described with the following categories: bleeding, vascular occlusion (myocardial infarction, stroke and pulmonary embolism), multiorgan failure, head injury, and other. All analyses were by intention to treat. This study is registered as ISRCTN86750102, Clinicaltrials.gov NCT00375258, and South African Clinical Trial Register DOH-27-0607-1919.

Findings 10 096 patients were allocated to tranexamic acid and 10 115 to placebo, of whom 10 060 and 10 067, respectively, were analysed. All-cause mortality was significantly reduced with tranexamic acid (1463 [14·5%] tranexamic acid group *vs* 1613 [16·0%] placebo group; relative risk 0·91, 95% CI 0·85–0·97; p=0·0035). The risk of death due to bleeding was significantly reduced (489 [4·9%] *vs* 574 [5·7%]; relative risk 0·85, 95% CI 0·76–0·96; p=0·0077).

Interpretation Tranexamic acid safely reduced the risk of death in bleeding trauma patients in this study. On the basis of these results, tranexamic acid should be considered for use in bleeding trauma patients.

Funding UK NIHR Health Technology Assessment programme, Pfizer, BUPA Foundation, and J P Moulton Charitable Foundation.

Lancet 2010; 376: 23–32

Published Online June 15, 2010 DOI:10.1016/S0140-6736(10)60835-5

See Comment page 3

*Members listed at end of paper

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crash@lshtm.ac.uk

CRASH-2
Clinical Randomisation of an Antifibrinolytic in Significant Haemorrhage

- Tüm mortalite sebepleri arasında Mortalitede anlamlı azalmaya sebep olduğu (Transamin grubu %14.5, plasebo %16)
- Kanamaya bağlı mortalitede de anlamlı azalmaya sebep olduğu (Transamin grubu %4.9, plasebo %5.7) tespit edildi.
- İlk 3 saatte uygulanmasının mortaliteyi azalttığı görüldü. (3. saatten sonra artış olur)

Maliyeti düşürdü

...

Cost-Effectiveness Analysis of Administering Tranexamic Acid to Bleeding Trauma Patients Using Evidence from the CRASH-2 Trial

Carla Guerriero[1]*, John Cairns[1], Pablo Perel[2], Haleema Shakur[2], Ian Roberts[2], on behalf of CRASH 2 trial collaborators

1 Department of Health Services Research and Policy, London School of Hygiene and Tropical Medicine, London, United Kingdom, **2** Clinical Trials Unit, London School of Hygiene and Tropical Medicine, London, United Kingdom

Abstract

Objective: To assess the cost effectiveness of giving tranexamic acid (TXA) to bleeding trauma patients in low, middle and high income settings.

Methods: The CRASH-2 trial showed that TXA administration reduces the risk of death in bleeding trauma patients with a small but statistically significant increase in non-intensive care stay. A Markov model was used to assess the cost effectiveness of TXA in Tanzania, India and the United Kingdom (UK). The health outcome was the number of life years gained (LYs). Two costs were considered: the cost of administering TXA and the cost of additional days in hospital. Cost data were obtained from hospitals, World Health Organization (WHO) database and UK reference costs. Cost-effectiveness was measured in international dollars ($) per LY. Both deterministic and probabilistic sensitivity analyses were performed to test the robustness of the results to model assumptions.

Findings: Administering TXA to bleeding trauma patients within three hours of injury saved an estimated 372, 315 and 755 LYs per 1,000 trauma patients in Tanzania, India and the UK respectively. The cost of giving TXA to 1,000 patients was $17,483 in Tanzania, $19,550 in India and $30,830 in the UK. The incremental cost of giving TXA versus not giving TXA was $18,025 in Tanzania, $20,670 in India and $48,002 in the UK. The estimated incremental cost per LY gained of administering TXA is $48, $66 and $64 in Tanzania, India and the UK respectively.

Conclusion: Early administration of TXA to bleeding trauma patients is likely to be highly cost effective in low, middle and high income settings.

Trial Registration: This paper uses data collected by the CRASH 2 trial: Controlled-Trials.com ISRCTN86750102, Clinicaltrials.gov NCT00375258 and South African Clinical Trial Register DOH-27-0607-1919.

Citation: Guerriero C, Cairns J, Perel P, Shakur H, Roberts I, et al. (2011) Cost-Effectiveness Analysis of Administering Tranexamic Acid to Bleeding Trauma Patients Using Evidence from the CRASH-2 Trial. PLoS ONE 6(5): e18987. doi:10.1371/journal.pone.0018987

Editor: Holger K. Eltzschig, University of Colorado Denver, United States of America

Received October 18, 2010; **Accepted** March 25, 2011; **Published** May 3, 2011

Funding: The CRASH-2 trial and this economic evaluation was funded by the UK NIHR Health Technology Assessment programme and will be published in full in the Health Technology Assessment journal series. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Competing Interests: The authors have declared that no competing interests exist.

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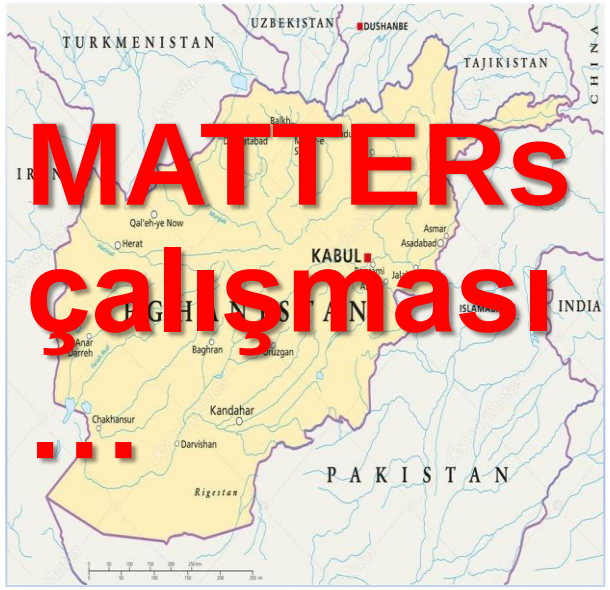


MATTERs çalışması ...

Military Application of Tranexamic Acid in Trauma Emergency Resuscitation (MATTERs) Study

Jonathan J. Morrison, MB ChB, MRCS; Joseph J. Dubose, MD; Todd E. Rasmussen, MD; Mark J. Midwinter, BMedSci, MD, FRCS

Objectives: To characterize contemporary use of tranexamic acid (TXA) in combat injury and to assess the effect of its administration on total blood product use, thromboembolic complications, and mortality.

Design: Retrospective observational study comparing TXA administration with no TXA in patients receiving at least 1 unit of packed red blood cells. A subgroup of patients receiving massive transfusion (≥10 units of packed red blood cells) was also examined. Univariate and multivariate regression analyses were used to identify parameters associated with survival. Kaplan-Meier life tables were used to report survival.

Setting: A Role 3 Echelon surgical hospital in southern Afghanistan.

Patients: A total of 896 consecutive admissions with combat injury, of which 293 received TXA, were identified from prospectively collected UK and US trauma registries.

Main Outcome Measures: Mortality at 24 hours, 48 hours, and 30 days as well as the influence of TXA administration on postoperative coagulopathy and the rate of thromboembolic complications.

Results: The TXA group had lower unadjusted mortality than the no-TXA group (17.4% vs 23.9%, respectively; $P=.03$) despite being more severely injured (mean [SD] Injury Severity Score, 25.2 [16.6] vs 22.5 [18.5], respectively; $P<.001$). This benefit was greatest in the group of patients who received massive transfusion (14.4% vs 28.1%, respectively; $P=.004$), where TXA was also independently associated with survival (odds ratio=7.228; 95% CI, 3.016-17.322) and less coagulopathy ($P=.003$).

Conclusions: The use of TXA with blood component–based resuscitation following combat injury results in improved measures of coagulopathy and survival, a benefit that is most prominent in patients requiring massive transfusion. Treatment with TXA should be implemented into clinical practice as part of a resuscitation strategy following severe wartime injury and hemorrhage.

Arch Surg. 2012;147(2):113-119. Published online October 17, 2011. doi:10.1001/archsurg.2011.287

- Mortalitenin anlamlı olarak %6.5 azaldığı saptanmış (Transamin grubu: %17.4, Plasebo: %23.9)

- Mortalitede azalmanın; en belirgin olarak %13.7 ile masif transfüzyon alan grupta olduğu görülmüş (Transamin %14.4, plasebo %28.1)

- Traneksamik asit alan grupta transfüzyon ihtiyacı ve pulmoner tromboemboli/derin ven trombozu oranı artmış olarak saptanmış.

Traneksamik asit için diğer endikasyonlar…

- **Travmatik Beyin Hasarı**

Health Technol Assess. 2012;16(13):iii-xii, 1-54. doi: 10.3310/hta16130.

CRASH-2 (Clinical Randomisation of an Antifibrinolytic in Significant Haemorrhage) intracranial bleeding study: the effect of tranexamic acid in traumatic brain injury--a nested randomised, placebo-controlled trial.

Perel P[1], Al-Shahi Salman R, Kawahara T, Morris Z, Prieto-Merino D, Roberts I, Sandercock P, Shakur H, Wardlaw J.

Author information

Abstract

BACKGROUND: Tranexamic acid (TXA) has been shown to reduce blood loss in surgical patients and the risk of death in patients with traumatic bleeding, with no apparent increase in vascular occlusive events. These findings raise the possibility that it might also be effective in traumatic brain injury (TBI).

OBJECTIVE: The Clinical Randomisation of an Antifibrinolytic in Significant Haemorrhage Intracranial Bleeding Study (CRASH-2 IBS) was conducted to quantify the effect of an early short course of TXA on intracranial haemorrhage and new focal cerebral ischaemic lesions in patients with TBI.

DESIGN: CRASH-2 IBS was a prospective randomised controlled trial nested within the CRASH-2 trial. Randomisation was balanced by centre, with an allocation sequence based on a block size of eight. We used a local pack system that selected the lowest numbered treatment pack from a box containing eight numbered packs. Apart from the pack number, the treatment packs were identical. The pack number was recorded on the entry form, which was sent to the international trial co-ordinating centre in London, UK. Once the treatment pack number was recorded, the patient was included in the trial whether or not the treatment pack was opened or the allocated treatment started. All site investigators and trial co-ordinating centre staff were masked to treatment allocation.

SETTING: Ten hospitals: (India) Aditya Neuroscience Centre, Sanjivani Hospital, CARE Hospital, Christian Medical College, Medical Trust Hospital, Jeevan Jyoti Hospital and (Colombia) Hospital Universitario San Vicente de Paul, Hospital Pablo Tobón Uribe, Hospital Universitario San José de Popayán and Fundación Valle del Lili.

PARTICIPANTS: The trial was conducted in a subset of 270 CRASH-2 trial participants. Patients eligible for inclusion in the CRASH-2 IBS fulfilled the inclusion criteria for the CRASH-2 trial, and also had TBI [Glasgow Coma Scale score of ≤ 14 and a brain computerised tomography (CT) scan compatible with TBI]. Pregnant women and patients for whom a second brain CT scan was not possible were excluded.

INTERVENTIONS: Participants were randomly allocated to receive either a loading dose of 1 g of TXA infused over 10 minutes followed by an intravenous infusion of 1 g over 8 hours or matching placebo.

MAIN OUTCOME MEASURE: The primary outcome was the increase in size of intracranial haemorrhage growth between a CT scan at hospital admission and a second scan 24-48 hours later.

RESULTS: One hundred and thirty-three patients were allocated to TXA and 137 to placebo, of whom information on the primary (imaging) outcome was available for 123 (92%) and 126 (92%) respectively. The analysis suggested that TXA was likely to be associated with a reduction in haemorrhage growth [adjusted difference -3.8 ml, 95% credibility interval (CrI) -11.5 ml to 3.9 ml], fewer focal ischaemic lesions [adjusted odds ratio (OR) 0.54, 95% CrI 0.20 to 1.46] and fewer deaths (adjusted OR 0.49, 95% CrI 0.22 to 1.06).

CONCLUSIONS: This was the first randomised controlled study to evaluate the effect of TXA in TBI patients and it found that neither moderate benefits nor moderate harmful effects can be excluded. However, although uncertainty remains, our analyses suggest that TXA administration might improve outcome in TBI patients and provide grounds for evaluating this hypothesis in future research.

Traneksamik asit için diğer endikasvonlar…

THE TRIAL IN NUMBERS

12734 PATIENTS RANDOMISED

1811 TOTAL NUMBER OF PATIENTS RANDOMISED IN THE GOLDEN HOUR TO DATE

RECRUITMENT CLOSED ON THE 31 JANUARY 2019, WELL DONE. THANKS SO MUCH FOR ALL YOUR HARD WORK!!!

CRASH-3 - tranexamic acid for the treatment of significant traumatic brain injury: study protocol for an international randomized, double-blind, placebo-controlled trial

Yashbir Dewan[1], Edward O Komolafe[2], Jorge H Mejía-Mantilla[3], Pablo Perel[4], Ian Roberts[4] and Haleema Shakur[4*] on behalf of CRASH-3 Collaborators

Abstract

Background: Worldwide, over 10 million people are killed or hospitalized because of traumatic brain injury each year. About 90% of deaths occur in low- and middle-income countries. The condition mostly affects young adults, and many experience long lasting or permanent disability. The social and economic burden is considerable. Tranexamic acid (TXA) is commonly given to surgical patients to reduce bleeding and the need for blood transfusion. It has been shown to reduce the number of patients receiving a blood transfusion by about a third, reduces the volume of blood transfused by about one unit, and halves the need for further surgery to control bleeding in elective surgical patients.

Methods/design: The CRASH-3 trial is an international, multicenter, pragmatic, randomized, double-blind, placebo-controlled trial to quantify the effects of the early administration of TXA on death and disability in patients with traumatic brain injury. Ten thousand adult patients who fulfil the eligibility criteria will be randomized to receive TXA or placebo. Adults with traumatic brain injury, who are within 8 h of injury and have any intracranial bleeding on computerized tomography (CT scan) or Glasgow Coma Score (GCS) of 12 or less can be included if the responsible doctor is substantially uncertain as to whether or not to use TXA in this patient. Patients with significant extracranial bleeding will be excluded since there is evidence that TXA improves outcome in these patients. Treatment will entail a 1 g loading dose followed by a 1 g maintenance dose over 8 h.
The main analyses will be on an 'intention-to-treat' basis, irrespective of whether the allocated treatment was received. Results will be presented as appropriate effect estimates with a measure of precision (95% confidence intervals). Subgroup analyses for the primary outcome will be based on time from injury to randomization, the severity of the injury, location of the bleeding, and baseline risk. Interaction tests will be used to test whether the effect of treatment differs across these subgroups. A study with 10,000 patients will have approximately 90% power to detect a 15% relative reduction from 20% to 17% in all-cause mortality.

Trial registration: Current Controlled Trials ISRCTN15088122; Clinicaltrials.gov NCT01402882

Keywords: Antifibrinolytic, Clinical trial, Emergency care, Intracranial bleeding, Tranexamic acid, Traumatic brain injury

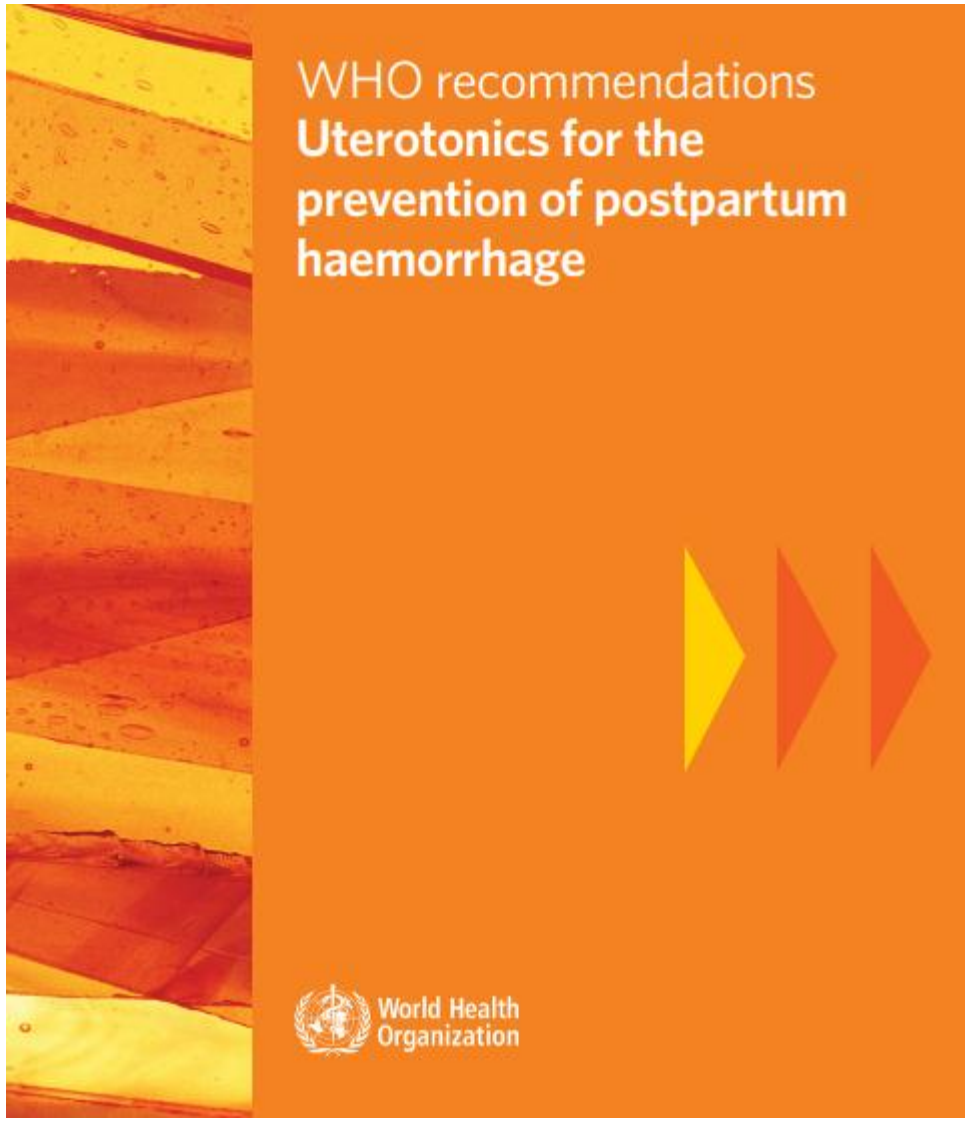
Traneksamik asit için diğer endikasyonlar…

- **Gastrointestinal kanamalar**

Roberts I., Coats T., Edwards P., Gilmore I., Jairath V., Ker K., Manno D., Shakur H., Stanworth S., Veitch A. (2014). HALT-IT–tranexamic acid for the treatment of gastrointestinal bleeding: study protocol for a randomised controlled trial. Trials, Nov 19;15:450. doi: 10.1186/1745-6215-15-450

Traneksamik asit için diğer endikasyonlar…

- **Post partum kanamalar**



WHO Recommendations for the Prevention and Treatment of Postpartum Haemorrhage, Geneva: World Health Organization; 2012. ISBN-13: 978-92-4-154850-2

Traneksamik asit için diğer endikasyonlar…

Trials. 2010 Apr 16;11:40. doi: 10.1186/1745-6215-11-40.

The WOMAN Trial (World Maternal Antifibrinolytic Trial): tranexamic acid for the treatment of postpartum haemorrhage: an international randomised, double blind placebo controlled trial.

Shakur H[1], Elbourne D, Gülmezoglu M, Alfirevic Z, Ronsmans C, Allen E, Roberts I.

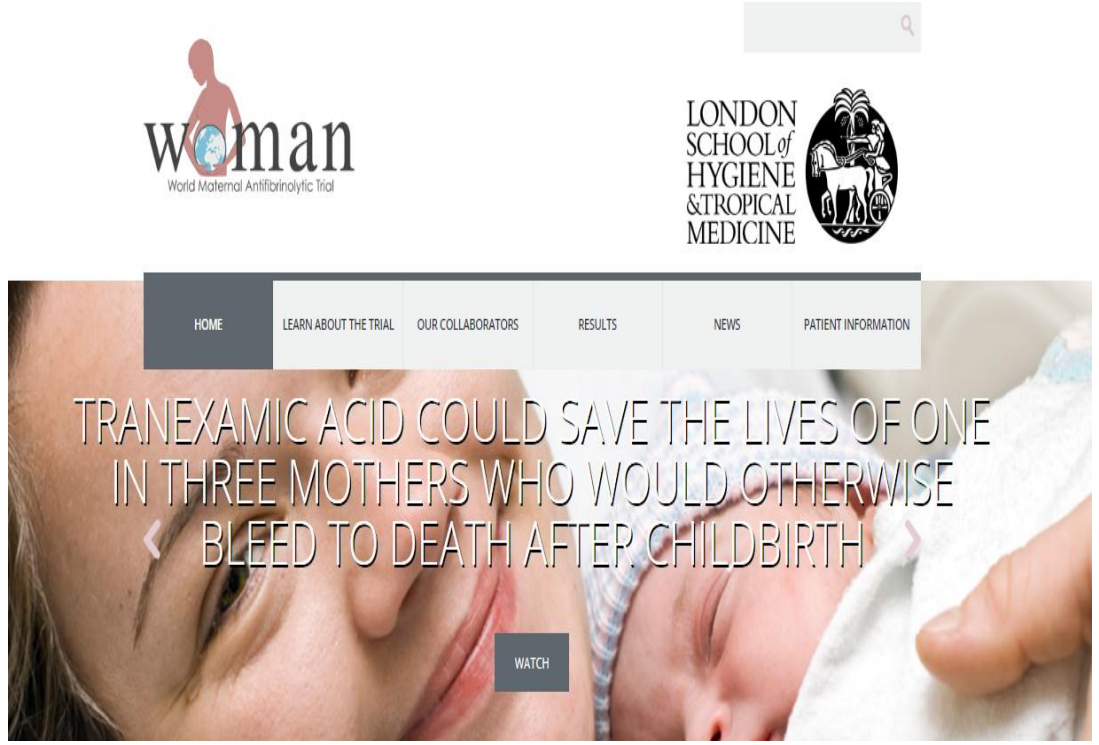
Author information

Abstract

BACKGROUND: Each year, worldwide about 530,000 women die from causes related to pregnancy and childbirth. Of the deaths 99% are in low and middle income countries. Obstetric haemorrhage is the leading cause of maternal mortality, most occurring in the postpartum period. Systemic antifibrinolytic agents are widely used in surgery to prevent clot breakdown (fibrinolysis) in order to reduce surgical blood loss. At present there is little reliable evidence from randomised trials on the effectiveness of tranexamic acid in the treatment of postpartum haemorrhage.

METHODS: The Trial aims to determine the effect of early administration of tranexamic acid on mortality, hysterectomy and other morbidities (surgical interventions, blood transfusion, risk of non-fatal vascular events) in women with clinically diagnosed postpartum haemorrhage. The use of health services and safety, especially thromboembolic effect, on breastfed babies will also be assessed. The trial will be a large, pragmatic, randomised, double blind, placebo controlled trial among 15,000 women with a clinical diagnosis of postpartum haemorrhage. All legally adult women with clinically diagnosed postpartum haemorrhage following vaginal delivery of a baby or caesarean section will potentially be eligible. The fundamental eligibility criterion is the responsible clinician's 'uncertainty' as to whether or not to use an antifibrinolytic agent in a particular woman with postpartum haemorrhage. Treatment will entail a dose of tranexamic acid (1 gram by intravenous injection) or placebo (sodium chloride 0.9%) will be given as soon as possible after randomisation. A second dose may be given if after 30 minutes bleeding continues, or if it stops and restarts within 24 hours after the first dose. The main analyses will be on an 'intention to treat' basis, irrespective of whether the allocated treatment was received or not. Subgroup analyses for the primary outcome will be based on type of delivery; administration or not of prophylactic uterotonics; and on whether the clinical decision to consider trial entry was based primarily on estimated blood loss alone or on haemodynamic instability. A study with 15,000 women will have over 90% power to detect a 25% reduction from 4% to 3% in the primary endpoint of mortality or hysterectomy.

TRIAL REGISTRATION: ClinicalTrials.gov NCT00872469



Shakur H., Elbourne D., Gülmezoglu M., Alfirevic Z., Ronsmans C., Allen E., Roberts I. (2010). The WOMAN Trial (World Maternal Antifibrinolytic Trial): tranexamic acid for the treatment of postpartum haemorrhage: an international randomised, double blind placebo controlled trial. Trials, Apr 16;11:40. doi: 10.1186/1745-6215-11-40.

Traneksamik asit için diğer endikasyonlar…

- **Travmatik Hifema**

Cochrane Database Syst Rev. 2013 Dec 3;(12):CD005431. doi: 10.1002/14651858.CD005431.pub3.

Medical interventions for traumatic hyphema.

Gharaibeh A[1], Savage HI, Scherer RW, Goldberg MF, Lindsley K.

Author information

Update in
Medical interventions for traumatic hyphema. [Cochrane Database Syst Rev. 2019]

Abstract

BACKGROUND: Traumatic hyphema is the entry of blood into the anterior chamber (the space between the cornea and iris) subsequent to a blow or a projectile striking the eye. Hyphema uncommonly causes permanent loss of vision. Associated trauma (e.g. corneal staining, traumatic cataract, angle recession glaucoma, optic atrophy, etc.) may seriously affect vision. Such complications may lead to permanent impairment of vision. Patients with sickle cell trait/disease may be particularly susceptible to increases of elevated intraocular pressure. If rebleeding occurs, the rates and severity of complications increase.

OBJECTIVES: To assess the effectiveness of various medical interventions in the management of traumatic hyphema.

Gharaibeh A., Savage H.I., Scherer R.W., Goldberg M.F., Lindsley K. (2013). Medical interventions for traumatic hyphema. Cochrane Database Syst Rev, Dec 3;12:CD005431. doi: 10.1002/14651858.CD005431.pub3.

Traneksamik asit için diğer endikasyonlar…

- **Epistaksis**

Am J Emerg Med. 2013 Sep;31(9):1389-92. doi: 10.1016/j.ajem.2013.06.043. Epub 2013 Jul 30.

A new and rapid method for epistaxis treatment using injectable form of tranexamic acid topically: a randomized controlled trial.

Zahed R[1], Moharamzadeh P, Alizadeharasi S, Ghasemi A, Saeedi M.

Author information

Abstract

OBJECTIVE: Epistaxis is a common problem in the emergency department (ED). Sixty percent of people experience it at least once in their life. There are different kinds of treatment for epistaxis. This study intended to evaluate the topical use of injectable form of tranexamic acid vs anterior nasal packing with pledgets coated with tetracycline ointment.

METHODS: Topical application of injectable form of tranexamic acid (500 mg in 5 mL) was compared with anterior nasal packing in 216 patients with anterior epistaxis presented to an ED in a randomized clinical trial. The time needed to arrest initial bleeding, hours needed to stay in hospital, and any rebleeding during 24 hours and 1 week later were recorded, and finally, the patient satisfaction was rated by a 0-10 scale.

RESULTS: Within 10 minutes of treatment, bleedings were arrested in 71% of the patients in the tranexamic acid group, compared with 31.2% in the anterior nasal packing group (odds ratio, 2.28; 95% confidence interval, 1.68-3.09; $P < .001$). In addition, 95.3% in the tranexamic acid group were discharged in 2 hours or less vs 6.4% in the anterior nasal packing group ($P < .001$). Rebleeding was reported in 4.7% and 11% of patients during first 24 hours in the tranexamic acid and the anterior nasal packing groups, respectively ($P = .128$). Satisfaction rate was higher in the tranexamic acid compared with the anterior nasal packing group (8.5 ± 1.7 vs 4.4 ± 1.8, $P < .001$).

CONCLUSIONS: Topical application of injectable form of tranexamic acid was better than anterior nasal packing in the initial treatment of idiopathic anterior epistaxis.

Zahed, R., Moharamzadeh P., Alizadeharasi, Ghasemi A., and Saeedi M. (2013). A New and Rapid Method for Epistaxis Treatment Using Injectable Form of Tranexamic Acid Topically: A Randomized Controlled Trial. The American Journal of Emergency Medicine, Sep;31(9):1389-92. doi: 10.1016/j.ajem.2013.06.043.

Traneksamik asit için diğer endikasyonlar…

- **Subaraknoidal Kanama**

Stroke. 2012 Jun;43(6):1711-37. doi: 10.1161/STR.0b013e3182587839. Epub 2012 May 3.

Guidelines for the management of aneurysmal subarachnoid hemorrhage: a guideline for healthcare professionals from the American Heart Association/american Stroke Association.

Connolly ES Jr, Rabinstein AA, Carhuapoma JR, Derdeyn CP, Dion J, Higashida RT, Hoh BL, Kirkness CJ, Naidech AM, Ogilvy CS, Patel AB, Thompson BG, Vespa P; American Heart Association Stroke Council; Council on Cardiovascular Radiology and Intervention; Council on Cardiovascular Nursing; Council on Cardiovascular Surgery and Anesthesia; Council on Clinical Cardiology.

Abstract

PURPOSE: The aim of this guideline is to present current and comprehensive recommendations for the diagnosis and treatment of aneurysmal subarachnoid hemorrhage (aSAH).

METHODS: A formal literature search of MEDLINE (November 1, 2006, through May 1, 2010) was performed. Data were synthesized with the use of evidence tables. Writing group members met by teleconference to discuss data-derived recommendations. The American Heart Association Stroke Council's Levels of Evidence grading algorithm was used to grade each recommendation. The guideline draft was reviewed by 7 expert peer reviewers and by the members of the Stroke Council Leadership and Manuscript Oversight Committees. It is intended that this guideline be fully updated every 3 years.

RESULTS: Evidence-based guidelines are presented for the care of patients presenting with aSAH. The focus of the guideline was subdivided into incidence, risk factors, prevention, natural history and outcome, diagnosis, prevention of rebleeding, surgical and endovascular repair of ruptured aneurysms, systems of care, anesthetic management during repair, management of vasospasm and delayed cerebral ischemia, management of hydrocephalus, management of seizures, and management of medical complications.

CONCLUSIONS: aSAH is a serious medical condition in which outcome can be dramatically impacted by early, aggressive, expert care. The guidelines offer a framework for goal-directed treatment of the patient with aSAH.

PMID: 22556195 DOI: 10.1161/STR.0b013e3182587839

[Indexed for MEDLINE]

Traneksamik asit için diğer endikasyonlar…

- **Pediatrik travmada**

Crit Care. 2014 Jul 2;18(4):313. doi: 10.1186/cc13965.

Tranexamic acid in pediatric trauma: why not?

Beno S, Ackery AD, Callum J, Rizoli S.

Abstract

Trauma is a leading cause of death in pediatrics. Currently, no medical treatment exists to reduce mortality in the setting of pediatric trauma; however, this evidence does exist in adults. Bleeding and coagulopathy after trauma increases mortality in both adults and children. Clinical research has demonstrated a reduction in mortality with early use of tranexamic acid in adult trauma patients in both civilian and military settings. Tranexamic acid used in the perioperative setting safely reduces transfusion requirements in children. This article compares the hematologic response to trauma between children and adults, and explores the potential use of tranexamic acid in pediatric hemorrhagic trauma.

PMID: 25043066 PMCID: PMC4095612 DOI: 10.1186/cc13965

[Indexed for MEDLINE] **Free PMC Article**

Son söz…

- Traneksamik asit fibrin yıkımını engelleyerek kanama kontrolü sağlayan **ucuz** bir ilaçtır.
- Acil kliniğinde pek çok endikasyon için kullanılabilir ve kullanımını test eden çalışmalar halen devam etmektedir.
- Ana kullanım endikasyonu **TRAVMA** kanamalarıdır.
- Zamana dikkat!!! Travmadan sonraki **ilk 3 saatte** verilmelidir.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