

The Effects of Using Tranexamic Acid in Tumescent Solution During Rhytidectomy Surgery

The American Journal of
Cosmetic Surgery
1–6

© The Author(s) 2021
Article reuse guidelines:

sagepub.com/journals-permissions
DOI: 10.1177/07488068211057740
journals.sagepub.com/home/acs



Kayvan Fathimani, DDS, FACS, FRCD(C), FIBCSOMS¹ ,
Jon Perenack, MD, DDS², and Brian J. Christensen, DDS, MD²

Abstract

Introduction: Tranexamic acid (TXA) is a common adjunct to assist in hemostasis in a wide variety of applications. Although TXA has gained more popularity in facial cosmetic surgery, there are limited studies evaluating the effects of TXA in rhytidectomy patients, especially when used in tumescent solution.

Purpose: The purpose of this study was to evaluate the effects of TXA on surgical time, postoperative ecchymosis, and need for aspiration when used in tumescent solution during cervicofacial rhytidectomy procedures.

Materials and Methods: The authors designed a retrospective cohort study from an eligible population of all patients treated with cervicofacial rhytidectomy using tumescent solution at Williamson Cosmetic Center in Baton Rouge, LA, from January 1, 2019, to December 31, 2019. The outcome variables were surgical time, need for postoperative aspiration, and the duration of bruising postoperatively. The primary predictor variable was the use of TXA in the tumescent solution. Statistical analysis was performed using *t* tests and chi-square analyses.

Results: Overall, 70 patients were included in the study with a mean age of 61.4 ± 7.2 years and 90% were female. Forty-five patients were in the TXA group and 25 in the non-TXA group. The use of TXA in tumescent solution was statistically significant for reducing ecchymosis ($p < .001$). The majority of patients in the TXA group (60%) had bruising cleared by day 7, whereas the majority of patients in the non-TXA group (52%) had bruising cleared by day 28. There was a statically significant reduction in frequency of postoperative aspiration in the TXA group (8.9% in TXA group vs 40.0% in the non-TXA group, $P = .002$). The study did not demonstrate a significant difference in surgical time between the two groups.

Discussion: Although there is a lack of recognition of the potential benefits of TXA, there has been an increased off-label use by numerous surgical specialties. Routes of administration include topical, oral, intravenous, local infiltrative, and by tumescent anesthesia. Improvements in intraoperative hemostasis and postoperative ecchymosis are some of the main benefits of TXA.

Conclusions: Utilizing TXA in tumescent solution in patients undergoing cervicofacial rhytidectomy procedures is associated with an improvement in postoperative ecchymosis duration and a decreased need for postoperative aspiration compared with the non-TXA group.

Keywords

face-lift, anesthesia

Introduction

Tranexamic acid (TXA) is a common adjunct used in a multitude of surgical specialties including neurosurgical, plastic, orthopedic, cardiac, trauma, and oral and maxillofacial.¹⁻¹³

The utilization of TXA in facial cosmetic surgery has gained more popularity with its main effect on improving hemostasis.^{1,2,4-7,10-12} Very few studies evaluated the effect of TXA in rhytidectomy patients. As TXA can be delivered through different routes, there are very few reports of TXA combined with local or tumescent solution during

cervicofacial rhytidectomy.^{1,2,4,6,7,12} A prior study illustrated using high concentrations of TXA at 9.1 mg/mL with tumescent anesthesia during such procedures.⁶ The purpose of our

¹Fellowship Trained Facial Cosmetic Surgery, New York City, NY, USA

²Louisiana State University Health Sciences Center New Orleans, USA

Corresponding Author:

Kayvan Fathimani, Department of Oral and Maxillofacial Surgery, Louisiana State University Health Sciences Center New Orleans, School of Dentistry, 1100 Florida Avenue #220, New Orleans, LA 70119, USA.