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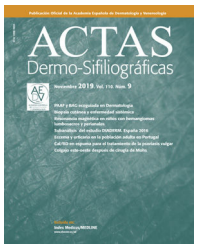

VIDEOS OF SURGICAL PROCEDURES IN DERMATOLOGY

Tranexamic Acid for Bleeding Control During a Hair Transplant Procedure☆

Hemostasia con ácido tranexámico durante trasplante capilar

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Introduction

Hair transplant surgery is a growing trend. Although it produces good results, it is a laborious procedure and intraoperative complications may occur. One noteworthy complication is local bleeding, which can increase the difficulty of the procedure. We present the case of a patient with hemophilia A and describe how we managed intraoperative bleeding during follicular unit extraction (FUE).

Case Description

The patient was a 35-year-old man who had been diagnosed with mild hemophilia A (factor VII, 27%) after a bleeding episode during dental extraction. Desmopressin was necessary to control the bleeding. The patient came to our clinic for a hair transplant. Given his history of hemophilia, we consulted the hematology department, who recommended prior administration of desmopressin. This option, however, was ruled out as the scheduling of the procedure was incompatible with the hours of the day hospital. We therefore decided to administer oral tranexamic acid (TXA) 500 mg on the day of the procedure and every 6 to 8 hours for the following 48 hours. The patient underwent hair transplant with the FUE technique, which required the extraction of 1535 follicular units. Topical TXA was applied throughout to control bleeding by gentle compression with a gauze soaked in injectable TXA solution (Amchafibrin 500 mg) (Supplementary Material). Topical use of TXA reduced the bleeding after just a few minutes, allowing better visualization of incisions and facilitating the implantation of the harvested hair.

Indications and Contraindications of the Technique

TXA is an antifibrinolytic agent that inhibits the conversion of plasminogen to plasmin. It is indicated for the treatment and prevention of bleeding in hemophiliac patients, women with heavy menstruation, and in prostate and bladder surgery. Topical TXA was also recently described as a useful option for arthroplasty[1] and for epistaxis and oral or rectal bleeding in emergency departments.[2–4] It also appears to have an anti-inflammatory effect.[4]

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Namazi[5] proposed adding an ampoule of TXA (5 mL, 500 mg) to the tumescent anesthetic solution during hair transplantation to ease and shorten the procedure.

Topical TXA appears to be an interesting option for both donor and recipient sites. We, however, consider that it is more useful for recipient sites, as this is where most manipulation is needed and where bleeding can complicate the implantation of the extracted follicular units. In addition, compression at donor sites during FUE may be sufficient in patients without disease or not on anticoagulation therapy.

No studies have analyzed the potential effects of TXA on graft survival. However, one would expect this not to be affected, as TXA facilitates the procedure by shortening surgery time, inhibits fibrinolysis without causing vasoconstriction, is associated with few adverse effects (essentially allergic reactions), and has a half-life of just 3 hours when the oral formulation is used (and probably less when the topical formulation is used). The clinical outcome in the case presented is as expected after a follow-up period of 4 months.

TXA is mainly contraindicated in severe kidney failure and should be avoided in patients on hormonal contraceptives as it carries an increased risk of thrombosis.

Complications

Our patient did not develop any complications or adverse effects. The risk of adverse effects with topical TXA is low.[2] Intravenous TXA, however, appears to increase the risk of ischemic events, although nausea and diarrhea are more common.[4,5]

Conclusions

Topical TXA appears to be an effective means of controlling mild to moderate bleeding. In addition, it is noninvasive, safe, and inexpensive. Its use in hair transplantation procedures could be extended to patients without medical conditions or under treatment with antiplatelets or anticoagulants.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Appendix A. Supplementary data

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.adengl.2019.01.021.

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