



Postoperative Bleeding Following Involitional Entropion Surgery in an Elderly Patient with a History of Dual Antiplatelet Therapy Use: A Case Report

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ABSTRAK

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Elderly patients often undergo dual antiplatelet therapy (DAPT) for cardiovascular conditions, which increases the risk of postoperative bleeding, including after involitional entropion surgery. The management of antiplatelet therapy in the perioperative period remains a clinical challenge that requires careful consideration. This case report aims to discuss the risk of severe postoperative bleeding associated with continuing DAPT during the perioperative period and to emphasize the importance of comprehensive perioperative care in elderly patients undergoing eyelid surgery. A 76-year-old man on DAPT (aspirin and clopidogrel) underwent right involitional entropion surgery. Four days postoperatively, he experienced persistent ocular bleeding requiring hospitalization. Hemoglobin decreased from 12.7 g/dL to 7.5 g/dL, while coagulation parameters remained within normal limits. The patient received a pressure dressing, systemic tranexamic acid, vitamin K, and three units of packed red blood cells. Following cardiology consultation, DAPT was discontinued. The bleeding gradually decreased and completely resolved within six days after DAPT discontinuation. The patient required seven days of hospitalization and blood transfusion due to the significant drop in hemoglobin. No further complications were observed during follow-up. Continuing DAPT during the perioperative period may cause serious postoperative bleeding, even after minor ophthalmic procedures. Careful medication review, multidisciplinary coordination, and patient education are essential to reduce bleeding risk in elderly patients undergoing entropion surgery.

INTRODUCTION

Entropion is a condition in which the eyelid folds inward, causing malposition of the eyelid margin. This condition leads the eyelashes to rub against the surface of the eyeball, potentially resulting in irritation, corneal damage, and conjunctival injury (Cheraqpour, 2025). The most common type of entropion generally occurs in the elderly population, especially those over 60 years of age, due to degenerative changes in the supporting tissues of the eyelids (Gillmor et al., 2020; Mansour et al., 2025).

Management of entropion can be either conservative or surgical, depending on the severity and clinical impact. The surgical procedure aims to restore the anatomical position, shape, and functional integrity of the eyelid. However, it carries a risk of postoperative complications, including bleeding, overcorrection or undercorrection, lower eyelid retraction, infection, wound dehiscence, scar tissue formation, corneal injury, madarosis, and even eyelid necrosis (Noronha, 2015; Romeo et al., 2025; Zhao, 2025).

Dual Antiplatelet Therapy (DAPT) is a combination of aspirin with an ADP-receptor blocker (clopidogrel, prasugrel, or ticagrelor) that works synergistically to inhibit platelet aggregation. This therapy is commonly prescribed for patients with a history of coronary heart disease or ischemic stroke (Adams Jr & Biller, 2015; Bangalore et al., 2020; Levine et al., 2016; Mosconi & Paciaroni, 2022; Rosendorff et al., 2015). The antiplatelet effects of these drugs

may persist for 7–11 days after discontinuation. The use of DAPT during the perioperative period may increase the risk of bleeding (Columbo et al., 2018; Matejic-Spasic et al., 2022; Premji et al., 2023).

Previous studies have highlighted the challenges of managing antiplatelet therapy in ophthalmic surgery. A systematic review by the Department of Veterans Affairs found that evidence regarding perioperative antiplatelet management remains insufficient to conclusively guide clinical practice, with significant heterogeneity across study designs and outcomes. Galvis et al. (2023) reported a case of massive hyphema following laser iridotomy in a patient on DAPT (aspirin plus ticagrelor), where active bleeding occurred during the procedure and filled approximately 75% of the anterior chamber, requiring medical intervention to control intraocular pressure. The authors emphasized that if patients are taking both aspirin and ticagrelor, discontinuing the second medication, if possible, is advisable (Arora et al., 2019; Baber et al., 2016; Ford, 2015; Gimbel et al., 2020; O'Donoghue et al., 2020; Wiebe et al., 2021).

Regarding surgical timing, noted that normal platelet function typically returns 7–10 days after discontinuing aspirin, 5–7 days for prasugrel, and 5 days for clopidogrel. The UC San Diego Health guidelines (2023) specifically recommend that for ophthalmic plastic surgery procedures (such as entropion repair), antiplatelet therapy should be discontinued for 5–7 days in the case of clopidogrel and 7–10 days for aspirin. A study by Zarei (2022) on vitrectomy patients with proliferative diabetic retinopathy found that DAPT continuation significantly increased the risk of hemorrhagic complications during surgery. The American Academy of Ophthalmology (2021) emphasizes that management of patients on antithrombotic therapy should be individualized, weighing systemic versus ocular surgical risks.

This case report discusses a postoperative patient with right-eye entropion who experienced severe postoperative bleeding, allegedly related to the continuation of DAPT before and after surgery. This case underscores the importance of thorough perioperative drug evaluation, patient education, and close monitoring to prevent bleeding complications. It also aims to provide clinical insight for ophthalmologists and other healthcare providers in managing elderly patients on antiplatelet therapy undergoing eyelid surgery.

Method

Case Report

A 76-year-old male patient presented to the Emergency Department of Dr. Soedono Hospital at 23:20 WIB with a complaint of continuous bleeding from the right eye since 22:00 WIB. The complaint was accompanied by pain and soreness in the same eye. The bleeding appeared suddenly while the patient was sleeping, with no apparent triggering factors, and was not associated with any particular activity.

The patient had a history of entropion surgery in the right eye, performed four days earlier due to inward folding of the right eyelid. On the first and second postoperative days, the surgical wound showed mild bleeding, which then stopped spontaneously. The patient also had a history of hypertension and regularly attended monthly check-ups at the Cardiology Polyclinic of Dr. Soedono Hospital. There was no history of smoking or previous trauma.

On physical examination, the patient was found to be in good general condition, fully conscious (*compos mentis*), with a blood pressure of 144/91 mmHg and other vital signs within normal limits. A complete blood laboratory test showed a hemoglobin (Hb) level of 12.7 g/dL, with other parameters within normal ranges. Ophthalmologic examination in the Emergency Department revealed that the *visio* of the right eye was difficult to assess due to active bleeding, while the *visio* of the left eye was 6/9.

The right eye was observed to be bleeding heavily and continuously. When the eyelid was opened, active bleeding persisted, and the amount increased after clearing blood clots. The patient immediately received a pressure bandage over the right eye and was planned for hospitalization. Initial emergency management included an injection of tranexamic acid (500 mg), vitamin K, analgesics, and intravenous infusion with Ringer's lactate solution.

Upon further anamnesis, it was found that the patient was still taking medications prescribed by the Cardiology Polyclinic, namely aspirin (aspilet) and clopidogrel. These drugs had not been discontinued either before or after the entropion surgery.

During treatment, patients are monitored closely and periodically. The patient is consulted by a cardiologist and internal medicine specialist. Cardiologists recommend a temporary discontinuation of aspirin and clopidogrel and replace them with alternative therapies, while internal medicine doctors recommend a hemostasis check-up.

After two days of hospitalization, the bleeding was still going on in a significant amount. On the third day of hospitalization, a complete blood test showed a decrease in Hb to 9.9 g/dL, with the results of hemostasis within normal limits. On the fourth day of hospitalization, Hb decreased again to 7.5 g/dL, so the patient received a Packed Red Cell (PRC) transfusion of 3 colf given on the fourth and fifth days of hospitalization. A complete blood evaluation on the sixth day of hospitalization showed an increase in Hb to 10.7 g/dL.

The bleeding in the right eye stopped completely on the sixth day of hospitalization, and the patient was discharged after seven days of treatment. No follow-up complications were found at the first post-hospital control visit.

RESULTS AND DISCUSSION



Figure 1. The condition of the patient's right eye when he just arrived at the ER

Source: Personal documentation, Dr. Soedono Hospital



Figure 2. Bleeding on day 2 of treatment

Source: Personal documentation, Dr. Soedono Hospital
(2026)

The patient in this case experienced involitional entropion which caused uncomfortable sensations such as blockage and hot eyes in the patient. Epidemiologically, involitional entropion is more prone to occur at the age of more than 60 years due to age factors and weakness in the muscles and tendons of the eyelids. One of the postoperative complications of entropion is bleeding. Postoperative bleeding can be caused by local as well as systemic factors. Local factors include inadequate blood vessel ligation, excessive tissue trauma, eyelid hematoma, and surgical wound infections. Systemic factors include coagulation disorders, the use of certain medications, and uncontrolled hypertension (Banerjee et al., 2017).

The cause of perioperative bleeding is most common in elderly patients who are receiving anticoagulant therapy or antiplatelet therapy. Perioperative hemorrhage has an impact on patients in the form of surgical outcomes, long healing times, and increased treatment costs (Banerjee et al., 2017).

Some drugs that can affect the blood clotting process include anti-coagulant, anti-platelet, NSAID, fibrinolytic/thrombolytic, as well as several types of antibiotics and chemotherapy/cytostatic drugs. In this case, postoperative is strongly suspected to be related to DAPT consumption which continues until a few days after surgery (Banerjee et al., 2017; Cheraqpour, 2025).

Management during treatment included a pressure wrap using coated gauze moistened with Ringer lactate liquid, administration of antifibrinolytic agents in the form of tranexamic acid, and vitamin K injections. Cessation of bleeding cannot be achieved immediately because the antiplatelet effects of DAPT still persist in the system even after the drug has been discontinued. This effect generally lasts for 7–11 days from the last dose.

In general, aspirin is recommended to be discontinued 7–10 days before surgery, while P2Y₁₂ receptor inhibitors (such as clopidogrel and prasugrel) are discontinued 5–10 days before surgery. In these patients, bleeding stopped completely on day 6 after discontinuation of DAPT.

CONCLUSION

Discontinuation of DAPT during the perioperative period is essential to prevent bleeding complications. In this case, postoperative bleeding following entropion surgery hindered the wound-healing process and prolonged the duration of hospitalization. DAPT

should be discontinued at least seven days before surgery, taking into account the patient's cardiovascular condition and the need for cross-disciplinary consultation. In this patient, bleeding ceased six days after the discontinuation of DAPT.

This case report provides several important recommendations for clinical practice. First, a thorough preoperative evaluation of medication history is mandatory for all elderly patients scheduled for eyelid surgery, with particular attention to antiplatelet and anticoagulant therapies. Second, multidisciplinary collaboration among ophthalmologists, cardiologists, and internists is crucial in managing patients on DAPT to balance the risks of thromboembolic events against surgical bleeding. Third, patient education regarding the importance of medication discontinuation and the early recognition of postoperative bleeding should be emphasized to support timely intervention. Fourth, healthcare facilities should establish clear protocols for the perioperative management of patients on antiplatelet therapy undergoing ophthalmic procedures. Future research involving larger case series or prospective studies is needed to develop evidence-based guidelines for DAPT management in entropion surgery and other ophthalmic plastic procedures.

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