

Cessation vs Continuation of Dual Antiplatelet Therapy for Simple Exodontia

Yumna Shafqat Baig, Amna Hassan, Amna Muzaffar, Ali Akhtar Khan*, Ozair Sherazi*, Hassan Tariq Bhatti**

Department of Oral Maxillofacial Surgery, Rawal Institute of Health Sciences, Islamabad Pakistan, *Department of Oral Maxillofacial Surgery, Armed Forces Institute of Dentistry/National University of Medical Sciences (NUMS) Rawalpindi Pakistan, **Department of Oral Maxillofacial Surgery, Allama Iqbal Memorial Teaching Hospital, Sialkot Pakistan

ABSTRACT

Objective: To evaluate the outcome among patients of withdrawing antiplatelet therapy compared to continuing their medication prior to simple exodontia in terms of mean bleeding time and frequency of active bleeding.

Study Design: Quasi-experimental study.

Place and Duration of Study: Armed Forces Institute of Dentistry, Rawalpindi, Pakistan, from May to Nov 2021.

Methodology: We included 220 patients of either gender, ranging in age from 40 to 80 years, presenting in the OPD for root simple extraction of mandibular molars, on dual antiplatelet therapy. They were divided into 2 groups on the basis of continuation or discontinuation of medication. Simple extraction was performed, and local hemostatic measures were taken. Post extraction bleeding was monitored and noted for 30 minutes, after which patients were discharged. All participants were asked to contact operating surgeon after 24 hours, in case of any bleeding complication.

Results: Out of 220 patients, 127(57.73%) were males and 93(42.27%) were females with male to female ratio of 1.4:1 In this study, mean bleeding time in Group-A, which continued dual oral anticoagulant therapy, was 77.15±4.48 seconds and in Group-B, which discontinued dual oral anticoagulant therapy, was 67.24±7.22 seconds. Bleeding in Group-A, was found in 23 (20.91%) patients and in Group-B, was found in 10 (9.09%) patients (p -value =0.014).

Conclusion: Simple exodontia can be carried out in patients continuing oral dual antiplatelet medication by taking local hemostatic measures.

Keywords: Bleeding time, Cardiac risk, Clopidogrel, Dual antiplatelet therapy, Simple extraction.

How to Cite This Article: Baig YS, Hassan A, Muzaffar A, Khan AA, Sherazi O, Bhatti HT. Cessation vs Continuation of Dual Antiplatelet Therapy for Simple Exodontia. *Pak Armed Forces Med J* 2025; 75(2): 296-299. DOI: <https://doi.org/10.51253/pafmj.v75i29960>

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Antiplatelet or anti-coagulant agents are drugs which prevent the binding of platelets and inhibit thromboxane synthesis and are utilized in thromboembolic disorders such as coronary artery diseases and cerebrovascular accidents, with aspirin and clopidogrel being the most commonly prescribed oral antiplatelets drugs,¹ used alone or sometimes in combination, but with different mechanisms of action for inhibition of platelets aggregation.^{2,3} Aspirin and clopidogrel are frequently prescribed together because of their complementary effects which enhance their effectiveness, however, these antiplatelet medications can cause prolonged and excessive bleeding which prompts their cessation a few days before any surgery due to which local techniques are often recommended in these patients to achieve hemostasis, such as sutures, gelatin sponge, and continuous pressure with a gauze pack for longer duration.^{4,5} As opposed to situations like myocardial infarction and unstable angina, where a rapid anti-clotting effect is required,

moderate dosages (160-325 mg/day) are used instead.⁶ Unfortunately, post-operative hemorrhagic complications by stopping any antiplatelet medications can sometimes lead to life-threatening situations, thus if necessary, ceasing it should only be considered in extreme situations.⁷ Thus, the purpose of this study is to compare outcomes between patients who discontinue antiplatelet treatment and those who continue it, prior to simple extraction, as current literature suggests that discontinuing the medication is not necessary for every patient, contrary to general practice. This study will evaluate the outcome of withdrawing antiplatelet therapy in comparison to patients continuing their medication prior to the simple exodontia in terms of mean bleeding time and frequency of active bleeding.

METHODOLOGY

This quasi-experimental study was done at the Department of Oral and Maxillofacial Surgery, Armed Forces Institute of Dentistry (AFID), Rawalpindi, Pakistan, after securing approval from the Ethics Review Committee (IRB number 90/ Trg-ABP1K2), from May to November 2021. Sample size was calculated using the WHO sample size calculator and

Correspondence: Dr Yumna Shafqat Baig, Department of Oral Maxillofacial Surgery, Rawal Institute of Health Sciences, Islamabad Pakistan
Received: 21 Feb 2023; revision received: 26 Aug 2023; accepted: 19 Jan 2024

previous findings from literature.⁹ As Group-A comprised of people continuing dual anti-platelet therapy while Group-B comprised of people who discontinued the medication 5 days prior to extraction, the level of significance was 5% while power of test was 80%, sample size came out to be n=110 in each group, while total sample size was 220. We labelled all the patients of both genders having hypertension and taking dual antiplatelets therapy as indoor cases and a definitive diagnosis was made with detailed history and clinical examination.

Inclusion Criteria: Patients taking oral anticoagulant (dual) therapy requiring simple extractions of 1st molar (maxilla+ mandible), belonging to either gender and between the ages of 40 to 80 years.

Exclusion Criteria: Patients with history of uncontrolled bleeding, radiotherapy, chemotherapy, bisphosphonates, bone diseases and women who were pregnant or nursing.

Patients were explained in detail about the clinical procedure and its possible complication after which each patient signed a consent form giving their informed consent. Patients were split into two groups according to lottery method for simple random sampling: Group-A (continued dual antiplatelet therapy) and Group-B (discontinued dual antiplatelet therapy), irrespective of gender or age. Consultation from patient's cardiologist was obtained for Group-B prior to cessation of antiplatelet therapy. Bleeding time and blood pressure were obtained for every patient before starting procedure. Local anesthesia was administered after which simple 1st molar dental extractions were carried out which do not involve flap raising and bone removal. Post extraction bleeding was monitored and noted for 30 minutes after which patients were discharged. All participants were asked to call the operating surgeon if there was any uncontrolled bleeding after being discharged for 24 hours. Local hemostatic measures were taken accordingly in case of uncontrolled bleeding. Data was analyzed using Microsoft Excel. Descriptive statistics were used to analyze all qualitative and quantitative variables. Independent sample 't' test was used to compare bleeding time and chi-square test was used to compare the frequency of bleeding between the two groups for which p -value ≤ 0.05 was considered as significant.

RESULT

Of the 220 patients that were analyzed, 127(57.73%) were male, and 93(42.27%) were female.

Majority of the patients (112, 50.91%) were between 40 to 60 years of age with the mean age being 58.86 ± 7.25 years. Table-I lists the comparison of bleeding time in seconds for both Group-A and Group-B.

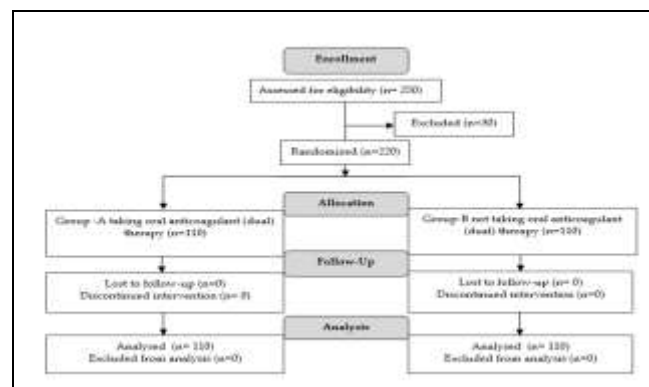


Figure: Patient Flow Diagram (n=40)

Table-I: Comparison of Mean Bleeding Time Between Both Groups (n=220)

	Group-A (n=110) Mean±SD	Group-B (n=110) Mean±SD	p-value (≤ 0.05)
Bleeding time(seconds)	77.15±4.48	67.24±7.22	0.0001

Table-II shows the presence of bleeding in Group-A, which was found in 23(20.91%) patients while in Group-B, it was found in 10(9.09%) patients, with p -value of 0.014 which was found to be statistically significant.

Table II: Comparison of Presence of Bleeding Between Both Groups. (n=220)

	Group-A (n=110)		Group-B (n=110)		p-value (≤ 0.05)
	Yes	No	Yes	No	
Bleeding	23(20.91%)	87(79.09%)	10(9.09%)	100(90.91%)	0.014

DISCUSSION

At present, it is unclear what the best dental care for people receiving long-term antiplatelet therapy should be with many surgeons opting to frequently halt long-term, low-dose antiplatelet medication out of concern for severe bleeding, due to which, patients are put at risk for serious thromboembolic events.⁸⁻⁹ The American College of Chest Physicians advises patients who need dental extraction within six weeks of angioplasty, to continue taking antiplatelet medications throughout this time.¹⁰ In their examination of 546 individuals taking antiplatelet medications, one study reported a longer bleeding time in patients taking dual medications (aspirin and

clopidogrel) and advised stronger hemostatic measures.¹¹ However, the quantity of bleeding that occurred after tooth extraction in a randomized controlled trial, including 63 patients with coronary artery disease, did not differ between individuals who continued antiplatelet drugs and those who stopped using them.¹² The author of one review,¹³ reported that patients taking single or double antiplatelet medications might have teeth extracted safely utilizing pressure pack for a longer duration while another study,¹⁴ found that there was no need to cease aspirin in pre-extraction phase because none of the patients experienced post-operative bleeding. One prospective trial,¹⁵ conducted on 181 patients concluded that continuing double antiplatelet medication was harmless but another study reported that following the discontinuation of these medications in patients, acute myocardial infarction had occurred.¹⁶ Recently, some studies,^{17,18} have reported that continued aspirin therapy has no effect on the incidence of post-operative bleeding and these patients could undergo extraction with minimal risk with some literature reviews advising against interrupting aspirin, clopidogrel or both for simple extraction.^{19,20} Patients taking aspirin can have normal extractions performed without an increased risk of bleeding,²¹ with one prospective research concluding that no patients using aspirin alone experienced postoperative haemorrhage.²² Another similar research revealed that a higher proportion of patients on dual antiplatelet therapy experienced prolonged immediate bleeding when compared to a healthy control group, which can be stopped by taking local hemostatic measures, due to which they concluded that discontinuing either medication is not preferred as it can predispose the patient to thromboembolism.²³ One more study also came to the conclusion that low risk oral surgical operations can be performed safely without running the risk of severe bleeding, with just 12% of patients in the group receiving dual antiplatelet treatment, demonstrating active bleeding following extraction.²⁴ Another study, which divided oral surgical procedures based on their risk of bleeding posed post-operatively; categorized simple dental extraction or up to three extractions with limited wound size as low risk procedure, which can safely be undertaken without cessation of single or dual antiplatelet therapy.²⁵

LIMITATIONS OF STUDY

The dosage of medications was not integrated; however, the merits include a generous sample size and the

elimination of operator bias as all the extractions were performed by a single surgeon, well-trained in the identification of prolonged bleeding and the technique of simple exodontia.

CONCLUSION

The cessation of drugs for simple exodontia, not requiring mucoperiosteal flap elevation or bone removal, is not necessary, as prolonged bleeding time by 7 to 10 seconds can be adequately managed by local hemostatic measures.

Conflict of Interest: None.

Funding Source: None.

Authors Contribution

Following authors have made substantial contributions to the manuscript as under:

YSB & AH: Study design, data interpretation, drafting the manuscript, critical review, approval of the final version to be published.

AM & AAK: Conception, data analysis, drafting the manuscript, approval of the final version to be published.

OS & HTB: Data acquisition, critical review, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

REFERENCES

1. Babaji P, Rishal Y. Clinical evaluation of role of dual antiplatelet therapy on bleeding after dental extraction. *Contemp Clin Dent* 2018; 9(1): 41-44. https://doi.org/10.4103/ccd.ccd_788_17
2. Sánchez-Palomino P, Sánchez-Cobo P, Rodríguez-Archilla A. Dental extraction in patients receiving dual antiplatelet therapy. *Med Oral Patol Oral Cir Bucal* 2015; 20(5): e616-20. <https://doi.org/10.4317/medoral.20484>
3. Lu SY, Lin LH, Hsue SS. Management of dental extractions in patients on warfarin and antiplatelet therapy. *J Formos Med Assoc* 2018; 117(11): 979-986. <https://doi.org/10.1016/j.jfma.2018.07.011>
4. Schreuder WH, Peacock ZS. Antiplatelet therapy and exodontia. *J Am Dent Assoc* 2015; 146(11): 851-856. <https://doi.org/10.1016/j.adaj.2015.05.016>
5. Bajkin BV, Urosevic IM, Stankov KM. Dental extractions and risk of bleeding in patients taking single and dual antiplatelet treatment. *Br J Oral Maxillofac Surg* 2015; 53(1): 39-43. <https://doi.org/10.1016/j.bjoms.2014.09.021>
6. Manoharan S, Sadhanandan M, Varghese KG. Evaluation of bleeding following dental extraction in patients on long-term antiplatelet therapy: A clinical trial. *Indian J Dent Res* 2015; 26(3): 252-255. <https://doi.org/10.4103/0970-9290.162901>
7. Nathwani S, Martin K. Exodontia in dual antiplatelet therapy: The evidence. *Br Dent J* 2016; 220(5): 235-238. <https://doi.org/10.1038/sj.bdj.2016.172>

Cessation vs Continuation of Dual Antiplatelet Therapy

8. Oake N, Jennings A, Forster AJ. Anticoagulation intensity and outcomes among patients prescribed oral anticoagulant therapy: A systematic review and meta-analysis. *Can Med Assoc J* 2008; 179(3): 235-244.
<https://doi.org/10.1503/cmaj.080171>
9. Ockerman A, Bornstein MM, Leung YY. Incidence of bleeding after minor oral surgery in patients on dual antiplatelet therapy: A systematic review and meta-analysis. *Int J Oral Maxillofac Surg* 2020; 49(1): 90-98.
<https://doi.org/10.1016/j.ijom.2019.06.006>
10. Grines CL, Bonow RO, Casey DE. Prevention of premature discontinuation of dual antiplatelet therapy in patients with coronary artery stents. *Circulation* 2007; 115(6): 813-818.
<https://doi.org/10.1161/CIRCULATIONAHA.106.180944>
11. Girotra C, Padhye M, Mandlik G. Assessment of the risk of haemorrhage and its control following minor oral surgical procedures in patients on anti-platelet therapy. *Int J Oral Maxillofac Surg* 2014; 43(1): 99-106.
<https://doi.org/10.1016/j.ijom.2013.07.741>
12. Medeiros FB, de Andrade AC, Angelis GA. Bleeding evaluation during single tooth extraction in patients with coronary artery disease and acetylsalicylic acid therapy suspension. *J Oral Maxillofac Surg* 2011; 69(12): 2949-2955.
<https://doi.org/10.1016/j.joms.2011.02.062>
13. Manfredini M, Poli PP, Creminelli L, Porro A, Maiorana C, Beretta M, et al. Comparative risk of bleeding of anticoagulant therapy with vitamin K antagonists (VKAs) and with non-vitamin K antagonists in patients undergoing dental surgery. *Journal of Clinical Medicine*. 2021 Nov 25; 10(23): 5526.
<https://doi.org/10.3390/jcm10235526>
14. Verma G, Tiwari AK, Chopra S. Aspirin and exodontia: A comparative study of bleeding complications with aspirin therapy. *Int J Dent Sci Res* 2013; 1(2): 50-53.
15. Olmos-Carrasco O, Pastor-Ramos V, Espinilla-Blanco R. Hemorrhagic complications of dental extractions in 181 patients undergoing double antiplatelet therapy. *J Oral Maxillofac Surg* 2015; 73(2): 203-210.
<https://doi.org/10.1016/j.joms.2014.07.037>
16. Li L, Zhang W, Yang Y. Dental management of patient with dual antiplatelet therapy: A meta-analysis. *Clin Oral Investig* 2019; 23(4): 1615-1623.
<https://doi.org/10.1007/s00784-018-2580-1>
17. Hanken H, Tieck F, Kluwe L. Lack of evidence for increased postoperative bleeding risk for dental osteotomy with continued aspirin therapy. *Oral Surg Oral Med Oral Pathol Oral Radiol* 2015; 119(1): 17-19.
<https://doi.org/10.1016/j.oooto.2014.07.011>
18. Nooh N. The effect of aspirin on bleeding after extraction of teeth. *Saudi Dent J* 2009; 21(2): 57-61.
<https://doi.org/10.1016/j.sdentj.2009.07.008>
19. Van Diermen DE, van der Waal I, Hoogstraten J. Management recommendations for invasive dental treatment in patients using oral antithrombotic medication. *Oral Surg Oral Med Oral Pathol Oral Radiol* 2013; 116(6): 709-716.
<https://doi.org/10.1016/j.oooto.2013.07.026>
20. Broekema FI, van Minnen B, Jansma J. Risk of bleeding after dentoalveolar surgery in patients taking anticoagulants. *Br J Oral Maxillofac Surg* 2014; 52(3): e15-19.
<https://doi.org/10.1016/j.bjoms.2013.12.006>
21. Krishnan B, Shenoy NA, Alexander M. Exodontia and antiplatelet therapy. *J Oral Maxillofac Surg* 2008; 66(10): 2063-2066. <https://doi.org/10.1016/j.joms.2008.06.007>
22. Bajkin BV, Bajkin IA, Petrovic BB. The effects of combined oral anticoagulant-aspirin therapy in patients undergoing tooth extractions. *J Am Dent Assoc* 2012; 143(7): 771-776.
<https://doi.org/10.14219/jada.archive.2012.0270>
23. Lillis T, Ziakas A, Koskinas K. Safety of dental extractions during uninterrupted single or dual antiplatelet treatment. *Am J Cardiol* 2011; 108(7): 964-967.
<https://doi.org/10.1016/j.amjcard.2011.05.029>
24. Qureshi I, Shahzad M, Bashir U. Comparison of postoperative bleeding with and without discontinuing the antiplatelet drugs after tooth extraction. *J Pharm Res Int* 2021; 33(29A): 145-151.
25. Dézsi CA, Dézsi BB, Dézsi AD. Management of dental patients receiving antiplatelet therapy or chronic oral anticoagulation. *Eur J Gen Pract* 2016; 22(4): 300-308.
<https://doi.org/10.1080/13814788.2016.1211111>

.....