CODEN [USA]: IAJPBB ISSN : 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES
SJIF Impact Factor: 7.187

Avalable online at: http://www.iajps.com *Research Article*

INCIDENCE OF GUM BLEEDING IN PATIENTS TAKING ANTIPLATELET THERAPY AMONG LOCAL POPULATION OF PAKISTAN

Dr. Ayesha Younas[1], Dr. Mehrunnisa Fatima Gondal[2], Dr. Muhammad Hammad Yaqub[3]
[1]Armed Forces Institute of Dentistry, Combined Military Hospital, Rawalpindi, [2]Rural Health Centre Barki, District Lahore, [3]Basic Health Unit Badh Rajbana, District Jhang.

Article Received: November 2020 **Accepted:** December 2020 **Published:** January 2021

Abstract:

Introduction: *Most practical recommendations consider dental procedures as minor interventions associated with a low risk of bleeding and self-limited blood loss that can be managed with local haemostatic agents.* ***Objectives:*** *The main objective of the study is to analyse the incidence of gum bleeding in patients taking antiplatelet therapy among local population of Pakistan.*

Material and methods: *This descriptive study was conducted in Benazir Bhutto Shaheed Hospital, Rawalpindi during June 2019 to December 2019. Bleeding was defined according to Ben-Dor et al.: alarming bleeding, internal bleeding, and nuisance bleeding. Internal bleeding included hematoma, epistaxis, vaginal bleeding, melena, hematemesis, eye bleeding, and haematuria.*

Results: *The mean BT was 19.5 ± 5.2 min, ranging from 5 min to more than 20 min. The incidence of bleeding was 32%. Seventeen patients had a BT longer than 20.5 min and less than 26 min: 5 nuisance bleeding and 1 internal bleeding (mild hematuria) which stopped after discontinuation of platelet inhibitory agents.*

Conclusion: *It is concluded that available evidence suggests that most dental interventions can be safely performed without the interruption of antithrombotic therapy.*

Corresponding author:
Dr. Ayesha Younas,
Armed Forces Institute of Dentistry, Combined Military Hospital, Rawalpindi.

QR code

Please cite this article in press Ayesha Younas et al, ***Incidence Of Gum Bleeding In Patients Taking Antiplatelet Therapy Among Local Population Of Pakistan.,*** *Indo Am. J. P. Sci, 2021; 08(1).*

INTRODUCTION:

Most practical recommendations consider dental procedures as minor interventions associated with a low risk of bleeding and self-limited blood loss that can be managed with local haemostatic agents. However, certain interventions, such as dental reconstruction surgery, may require the temporary discontinuation of antithrombotic therapy. Therefore, it may not be appropriate to handle dental procedures as a homogeneous group when it comes to assessing the risk of bleeding [1]. The Scottish Dental Clinical Effectiveness Programme (SDCEP) guidance provides a comprehensive classification of dental interventions based on the associated bleeding risks.

Due to the increasing life expectancy and the ageing of the population, the periprocedural management of patients receiving oral anticoagulant or antiplatelet therapy for the primary or secondary prevention of cardiovascular disease is an increasingly common clinical problem [2]. The management of these patients represents a challenge for physicians as they should carefully balance the risk of bleeding with the risk of thromboembolic complications resulting from the temporary interruption of antithrombotic therapy. Previous studies have demonstrated that in the case of dental procedures, the risk of thrombotic events due to altering or discontinuing antithrombotic therapy far outweighs the low risk of potential perioperative bleeding complications among patients treated with single or dual antiplatelet therapy or vitamin K antagonists [3].

However, less is published on the management of dental patients receiving direct oral anticoagulants (DOAC) and novel oral antiplatelet (NOAC) agents, the dental implications of which have only been investigated since 2012 [4]. The management approaches followed by dental practitioners in these patients show significant variations and inconsistencies, which reflects the lack of large-scale studies and evidence-based recommendations in this setting. Furthermore, a recent survey demonstrated the lack of current evidence and clear guidance to oral surgeons and general dental practitioners on the management of patients taking dual antiplatelet therapy (DAPT) requiring dentoalveolar surgical procedures [5]. Another recent survey has revealed that although dentists are aware of the periprocedural management of traditional anticoagulants and antiplatelet agents, there was a significant lack of knowledge about the new agents. Moreover, the results suggest that most dentists overestimate the risk of bleeding, which underlines the importance of dental education programmes and further training in this setting [6].

Objectives:

The main objective of the study is to analyse the incidence of gum bleeding in patients taking antiplatelet therapy among local population of Pakistan.

MATERIAL AND METHODS:

This descriptive study was conducted in Benazir Bhutto Shaheed Hospital, Rawalpindi during June 2019 to December 2019. Bleeding was defined according to Ben-Dor et al.: alarming bleeding, internal bleeding, and nuisance bleeding. Internal bleeding included hematoma, epistaxis, vaginal bleeding, melena, hematemesis, eye bleeding, and haematuria. Nuisance bleeding included easy bruising, bleeding from small cuts, petechia, and ecchymosis and was assessed during routine clinical follow-up. Only one bleeding episode was recorded for each patient. Venous blood was drawn from the antecubital vein without stasis and mixed with 0.11 mol/L sodium citrate. PRP was obtained by centrifugation at 150 $\times g$ for 10 min at room temperature; platelet-poor plasma (PPP) was obtained by centrifugation of PRP at 900 $\times g$ for 15 min at 20°C. The PRP was adjusted to a platelet count of 290,000-310,000/μL with autologous PPP. Basic hemostasis studies, prothrombin time, activated partial prothrombin time, and platelet count were performed at entry. Other tests exploring hemostasis were performed when indicated. Platelet function analyses were performed in accordance with a standardized protocol by the same trained technician, who was not aware of the study objectives or drug intake.

The data was collected and analysed using SPSS version 19. All the values were expressed in mean and standard deviation.

RESULTS:

The mean BT was 19.5 ± 5.2 min, ranging from 5 min to more than 20 min. The incidence of bleeding was 32%. Seventeen patients had a BT longer than 20.5 min and less than 26 min: 5 nuisance bleeding and 1 internal bleeding (mild hematuria) which stopped after discontinuation of platelet inhibitory agents.

Table 01: Association between BT, IPAmax values and nuisance bleeding

Quantitative variable	ROC AUC	95% CI for AUC	*P* value
BT (min)	0.695	0.595-0.783	0.0009
ADP 2 µmol/L IPA max (%)	0.631	0.529-0.725	0.0330
ADP 4 µmol/L IPA max (%)	0.597	0.495-0.694	0.1170
ADP 8 µmol/L IPA max (%)	0.565	0.462-0.663	0.3016

DISCUSSION:

Direct oral anticoagulants (DOAC):

Recently, several direct oral anticoagulants (DOACs) have been developed and tested in large clinical trials as well as real-world studies. These include the direct factor Xa inhibitors rivaroxaban, apixaban and edoxaban, and the direct thrombin inhibitor dabigatran [7]. The new agents are now approved for indications including the acute treatment of deep vein thrombosis (DVT) and pulmonary embolism (PE), the prevention of stroke and systemic embolization in non-valvular atrial fibrillation (NVAF), venous thromboembolism (VTE) prophylaxis after orthopaedic surgery and in hospitalized medically ill patients, and for the management of ACS [8]. For each agent, lower doses are indicated for patients with various levels of renal impairment, and in some cases, for the elderly [9].

The BT, as well as LTA, is considered to be an inaccurate and poorly reproducible technique, which is dependent on several variables. Therefore, these methods could be inappropriate for measuring platelet inhibition activity. Nevertheless, LTA is the gold standard test of platelet function and is used to categorize patients receiving ASA, CLOP, or dual therapy as responders or nonresponders or to define drug resistance. In addition, a recent paper used LTA to compare IPA between patients receiving ticagrelor or CLOP therapy. Antonino et al. found a strong correlation ($P \leq 0.04$) between LTA and flow cytometric measurements [10]. Gremmel et al. found that the results from 4 different assays of platelet function significantly correlated with LTA, and Paniccia et al. found a significant correlation between LTA and VerifyNow but not the PFA-100 assay. Recently, Bonello et al. provided a consensus opinion on the definition of high on-treatment platelet reactivity to ADP based on various methods reported in the literature and proposed LTA as 1 of the 4 tests associated with clinical risk. Very recently, Parodi et al. found that high residual platelet reactivity assessed by LTA and ADP as agonist among patients receiving clopidogrel after percutaneous coronary intervention (PCI) has been associated with a high risk of ischemic events at short- and long-term follow-up [11].

CONCLUSION:

It is concluded that available evidence suggests that most dental interventions can be safely performed without the interruption of antithrombotic therapy. However, further studies are needed to establish evidence-based guidelines for the periprocedural antithrombotic management of patients receiving direct oral anticoagulants or novel antiplatelet agents.

REFERENCES:

1. Lillis T, Ziakas A, Koskinas K, et al. . Safety of dental extractions during uninterrupted single or dual antiplatelet treatment. Am J Cardiol. 2011;108:964–967
2. Evans IL, Sayers MS, Gibbons AJ, et al. . Can warfarin be continued during dental extraction? Results of a randomized controlled trial. Br J Oral Maxillofac Surg. 2002;40:248–252.
3. Bajkin BV, Popovic SL, Selakovic SD.. Randomized, prospective trial comparing bridging therapy using low-molecular-weight heparin with maintenance of oral anticoagulation during extraction of teeth. J Oral Maxillofac Surg. 2009;67:990–995.
4. Cannon PD, Dharmar VT. Minor oral surgical procedures in patients on oral anticoagulants-a controlled study. Aust Dent J. 2003;48:115–118.
5. Morimoto Y, Niwa H, Minematsu K.. Hemostatic management of tooth extractions in patients on oral antithrombotic therapy. J Oral Maxillofac Surg. 2008;66:51–57.
6. Constantinides F, Rizzo R, Pascazio L, et al. . Managing patients taking novel oral anticoagulants (NOAs) in dentistry: a discussion paper on clinical implications. BMC Oral Health. 2016;16:5.
7. Johnston S. A study of the management of patients taking novel oral antiplatelet or direct oral anticoagulant medication undergoing dental surgery in a rural setting. Dent J. 2015;3:102–110.
8. Sivolella S, De Biagi M, Brunello G, et al. . Managing dentoalveolar surgical procedures in patients taking new oral anticoagulants. Odontology. 2015;103:258–263.
9. Patel N, Patel V, Sarkar D, et al. . Dual anti-platelet therapy and dento-alveolar surgery. How

do we manage patients on anti-platelet medication? Br Dent J. 2014;217:E24.
10. Chinnaswami R, Bagadia RK, Mohan A, et al. . Dentists' knowledge, attitude and practice in treating patients taking oral antithrombotic medications: a survey. J Clin Diagn Res. 2017;11:ZC88–ZC91.
11. Task Force on the management of ST-segment elevation acute myocardial infarction of the European Society of Cardiology (ESC) ESC guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation. Eur Heart J. 2012;33:2569–2619.