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ORIGINAL ARTICLE

Incidence of Gum Bleeding in Patients Taking Antiplatelet Therapy

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ABSTRACT

Introduction: Medical practitioners often advise patients on antiplatelet therapy to either stop or alter their medications prior to invasive surgical procedure because of fear of excessive and uncontrolled bleeding.

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 Saddique Family Hospital Gujranwala during June 2020 to December 2020. After permission from hospital ethical committee, total 120 patients meeting the inclusion and exclusion criteria will be enrolled in the study from Saddique Family Hospital Gujranwala. Detailed history and physical examination will be done to meet the inclusion and exclusion criteria. Informed consent will be obtained. Internal bleeding included hematoma, epistaxis, vaginal bleeding, melena, hematemesis, eye bleeding, and haematuria.

Results: The data was collected from 120 patients. The mean age was 35.67±2.56 years. 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.

Keywords: Antithrombotic, Therapy, Patients, Health

INTRODUCTION

Medical practitioners often advise patients on antiplatelet therapy to either stop or alter their medications prior to invasive surgical procedure because of fear of excessive and uncontrolled bleeding. Although there is increased risk of intraoperative and postoperative bleeding if aspirin is continued, there is increased risk of thromboembolic events such as cerebrovascular accidents and myocardial infarction if medication is altered or discontinued. 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 Saddique Family Hospital Gujranwala during June 2020 to December 2020.

Inclusion criteria

- All those who are willing to participate.
- Age 18 to 50 years.
- Both male and female.

Exclusion criteria

- Diabetic patients.
- Taking any anticoagulant drug
- Suffering from any CVD

Data Collection: After permission from hospital ethical committee, total 120 patients meeting the inclusion and exclusion criteria will be enrolled in the study from Hospital. Detailed history and physical examination will be done to meet the inclusion and exclusion criteria. Informed consent will be obtained.

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 ×g for 10 min at room temperature; platelet-poor plasma (PPP) was obtained by centrifugation of PRP at 900 ×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.

Statistical analysis: All the data will be analysed by SPSS (Statistical Package for social sciences release 20.0; SPSS, Inc; Chicago, IL) system for Windows. Continuous variables will be expressed as mean ± SD (Standard deviation) while categorical variables will be expressed as frequencies and percentages.

RESULTS

The data was collected from 120 patients. The mean age was 35.67±2.56 years. 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 1: 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

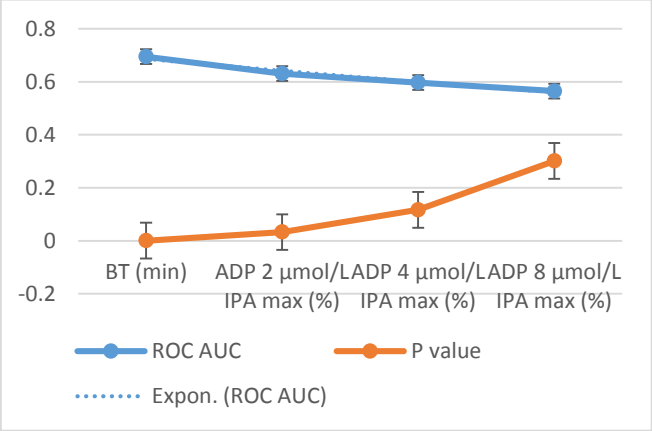
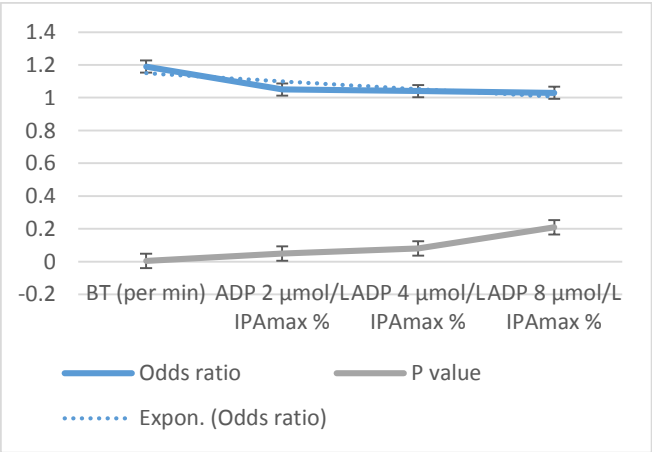


Table 2: Univariate analysis of BT, IPAmax values in response to ADP (independent covariates) and nuisance bleeding

Variables	Odds ratio	95% CI	P value
BT (per min)	1.19	1.04-1.33	0.004
ADP 2 µmol/L IPAmax %	1.05	1.00-1.07	0.049
ADP 4 µmol/L IPAmax %	1.04	0.99-1.06	0.081
ADP 8 µmol/L IPAmax %	1.03	0.98-1.05	0.21



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.

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