ORIGINAL ARTICLE

Prevalence of Gum Bleeding in Patient's Taking Antiplatelet Therapy Reporting in Private Dental College, Lahore

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OBJECTIVE: The primary goal of this research was to evaluate the frequency of Gum bleeding in antiplatelet therapy patients visiting the Private Dental Hospital in Lahore.
METHODOLOGY: This Descriptive study was held in Chaudhary Muhammad Akram Dental Hospital in the period of May 2020 - November 2020. Total 120 study participants were selected after getting ethical approval. This selection was totally based on inclusion and exclusion criteria of the study from Chaudhary Muhammad Akram Dental Hospital. Complete history of the patients that fulfilled the inclusion and exclusion criteria of the study was taken and their intraoral examination done. Informed consent was taken from every enrolled participantIvy's method was used to take bleeding time.
RESULTS: 120 selected patients data was organized properly. The mean age of patient was 20-60 years. The mean bleeding time was 19.5 ± 5.2 min, Which was variable from 5 to 20 mins. Prevalence of gum bleeding was 32%. Out of 20 patients, 17 patients showed bleeding time > 20.5, 5 patients showed slight bleeding that stop on its own or with a few minutes of direct pressure). and 1 patient showed bleeding in urine that stopped after removal of anti-platelet therapy.
CONCLUSION: It was concluded that without holding the anti-platelet drugs, many dental surgical procedures can be done safely.
KEYWORDS: Gum Bleeding, Anti-Platelet Therapy.
KEYWORDS: Periodontology, Evidence Based Practice, Diagnosis, Treatment planning, Periodontal classification 2017
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INTRODUCTION

Patients on antiplatelet drugs are routinely advised to hold or discontinue their therapy before any surgical procedure owing to fright for extravagant bleeding. In spite of the fact that there is expanded likelihood of intraoperative and postoperative blood loss if antiplatelet therapy is continued there is expanded chance of venous thromboembolism, for example, cerebrovascular mishaps and myocardial infarction, if drug is changed or stopped. Usually dental treatments are considered as minor surgical procedures with a low probability of bleeding, often self-limiting and are manageable by coagulation promoting agents. But, in some cases like dental trauma short term suspension of antiplatelet drugs becomes necessary. Hence, considering all dental procedures as a congruent group for likelihood of bleeding may not be justified.[1]

Although Dentistry-related management of patients on direct oral anticoagulants (DOAC) and new oral antiplatelet drugs (NOAC) has been documented infrequently and their implications been thoroughly examined since 2012.[2] With recent advances in medicine and expectation of expanded life span, post procedural use of oral anticoagulants or antiplatelet agents for prophylaxis of cardiovascular accidents is becoming fairly normal.[3] Treatment of such patients becomes challenging for the clinicians to achieve balance

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between hazard of bleeding episodes and with chances of thrombotic event due to interim discontinuation of antiplatelet therapy. It was shown in former studies have that during dental treatments, thrombotic events are at high risk to occur because of change or discontinuation in antithrombotic treatment.[4]

The dental aspect of oral anticoagulants and oral antiplatelets have only studied since 2012 and hence very few studies are available in this field.[5] A survey was conducted which showed that there was a lack of clear protocols for Oral & Maxillofacial surgeons and general dental practitioners on patient's management, These patients need dentoalveolar surgical procedures and they are on dual antiplatelet therapy (DAPT).[6] Another survey found that, prior to dental treatments, dentists are mostly knowledgeable about managing traditional anticoagulants and antiplatelet agents. However, new treatment options are always emerging, and dentists should be aware of them in order to advance their knowledge and expertise. Additionally, under the light of past studies it was suggested that most dentists misjudge the risk of bleeding. Continual Dental Education [CDE] Seminars and teaching in this aspect are required for better understanding.[7] So the main objective of present study is to evaluate bleeding gums prevalence in antiplatelet therapy patients reporting in Azra Naheed Dental Hospital.

METHODOLOGY

A descriptive research work was accompanied in Chaudhary Muhammad Akram Dental Hospital during May 2020 to November 2020. Inclusion criteria is Age 20 to 60 years. Patient on antiplatelet therapy. Exclusion criteria is patient's taking any anticoagulant drugs, Diabetic patients and those who are suffering from Chronic Vascular Disease

DATA COLLECTION

A total of 120 patients who satisfied the study's inclusion and exclusion criteria were registered from Chaudhary Muhammad Akram Dental Hospital after taking informed consent. Complete history and intra oral examination of a patient was done. Ben-Dor et al. provided the following definitions of bleeding: frightening bleeding, internal bleeding, and annoyance bleeding. Hematuria, melena, hematemesis, vaginal bleeding, hematoma, epistaxis, and ocular bleeding were among the internal bleeding symptoms. During routine clinical follow-up, nuisance bleeding was evaluated and included easy bruising, bleeding from tiny incisions, petechia, and ecchymosis.Only one bleeding episode was recorded for every individual. Without any stasis, venous blood was extracted from the antecubital vein and combined with 0.11 mol/L sodium citrate in stasis. Platelet-Rich Plasma (PRP) Centrifugation at 150 ×g for 10 min at ambient temperature was used to achieve injections; PRP was centrifuged at 900 ×g for 15 min at 20°C to obtain platelet-poor plasma (PPP). Using autologous PPP, PRP was adjusted to a platelet count of 290,000-310,000/µL. Haemostasis researches, activated partial prothrombin time, platelet count and prothrombin time were completed. When necessary, additional hemostasis-related tests like platelet function analyses were carried out in compliance with a standardised technique. Analysis of Platelet function was also done by following standard protocols.

STATISTICAL ANALYSIS

Data analysis will be done using SPSS 20.0 system. Expression of Continuous variables will be done as mean ± SD (Standard deviation) while categorical variables were shown as frequencies and percentages.

RESULTS

A total of 120 patients' data were gathered. The age distribution was 35.67±2.56 years old. The bleeding time ranged from 5 to 20 minutes, with an average of 19.5 ± 5.2 minutes. There was a 32% bleeding frequency. Out of the 120 patients, 17 had bleeding times longer than 20.5 minutes but not longer than 26 minutes, 5 had minor bleeding, and 1 patient had bleeding in the urine that ceased after

Table 1: Association between BT, IPA max values and nuisance bleeding

Quantitative variables	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

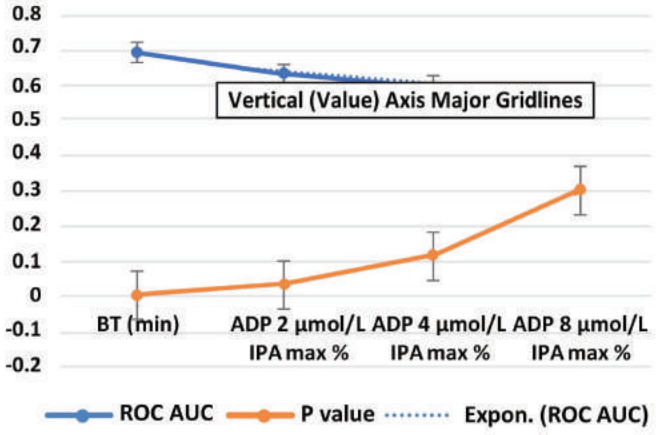
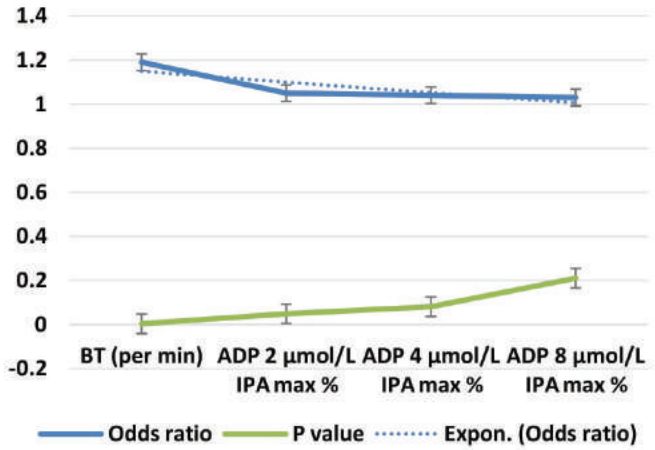


Table 2: Univariate analysis of BT, IPAmax values in response to ADP (independent covariates) and nuisance bleeding

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



anti-platelet medication [Dabigatran (direct thrombin inhibitor), Edoxaban, Rivaroxaban, and Apixaban (direct factor Xa inhibitors); and direct oral anticoagulants (DOAC)] agent was stopped.

DISCUSSION

Four medications have been approved by national or supranational medicinal agencies: Dabigatran (direct thrombin inhibitor), Edoxaban, Rivaroxaban, and Apixaban (direct factor Xa inhibitors); and direct oral anticoagulants (DOAC).[7,8] These novel compounds have a wide range of applications, such as being used as direct inhibitors of FXa. Additionally, promising data is beginning to emerge regarding certain antithrombotic molecules and aptamers that target intrinsic pathway factors (i.e., FIXa, FXIa, and FXIIa) in the crucial management of deep vein thrombosis (DVT), venous thromboembolism (VTE), and PE, as well as the prophylaxis of these conditions following orthopaedic surgery.[8,9,10] Elderly patients or those with renal problems are prescribed reduced dosages of medications.[11]

Bleeding time [BT] and LTA [light transmission aggregometry] are not considered accurate and reproducible procedure owing to their dependence on numerous variables. The gold standard test for platelet function is LTA, which is used to separate individuals into groups based on how anticoagulant medication is used. These groups include patients receiving ASA (acetylsalicylic acid aspirin), CLOP (clopidogrel; used for cardiac problems), dual therapy, and whether or not they are drug-resistant responders. Moreover, recently a research compared LTA with IPA (inhibition of platelet aggregation) among those patients who got therapy, either ticagrelor or CLOP. Previous research has shown a high association between flow cytometric measures and LTA same as present study.[12] Gremmel et al. presented four distinct assays of platelet function that substantially linked with LTA. Previous studies have demonstrated the therapeutic effectiveness of the FCA [flow cytometric platelet aggregation] assay; however, there was limited comparison between the LTA and FCA assay results in bleeding patients for the purpose of underlying platelet function deficiencies (PFD) diagnosis. Thus, this study assesses the clinical efficacy of the FCA assay for PFD detection and links the findings to LTA.[13] Recently, based on a variety of techniques documented in the literature, Bonello et al. provided their opinion on the definition of high treatment platelet reactivity to ADP [adenosine diphosphate ADP] and suggested that LTA be one of the four tests linked to clinical risk that is quite similar to present study. Very recently, Parodi et al. discovered that increased residual platelet reactivity as determined by LTA and ADP as an antagonist has been associated with an elevated risk of ischemic events during both the short and long-term follow-up among patients receiving clopidogrel following percutaneous coronary intervention (PCI).[14]

CONCLUSION

According to the results and previously performed researches the conclusion of our study was that many of dental procedures can be done without interfering with antithrombotic therapy. More supportive studies are required to develop plans for pre procedural antithrombotic therapy of direct receiving oral anticoagulants patients.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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