

Analysis of Impact of Antiplatelet Therapy on Minor Dental Procedures

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ABSTRACT:

Background: Blood flow obstruction by a clot may cause ischemia and organ infarction. Antiplatelet therapy (APT) for a number of thrombotic conditions has increased in the last years in primary prevention (prophylactic) and secondary prevention. Hence; the present study was undertaken for assessing the impact of anti-platelet therapy on minor dental procedures.

Materials & methods: A total of 40 patients who came to department with the aim of getting dental extractions and who were on low-dose aspirin were enrolled. All the patients were broadly divided into two study groups: Group 1: Patients in which no prior stoppage of aspirin was advised, and Group 2: Patients in whom the drugs were stopped 5 days before the procedure. All the extraction procedures were carried out by same surgeons. Suturing was done after extraction followed by pressure pack placement in the extraction socket. Evaluation of bleeding was done after one hour and after twenty hour postoperatively.

Results: After one hour, no bleeding was seen in 18 patients of group 1 and 19 patients of group 2. After 24 hours, no bleeding was seen in 17 patients of group 1 and 16 patients of group 2. While comparing the postoperative bleeding at one hour and 24 hours, non-significant results were obtained.

Conclusion: Antiplatelet drugs should not be withdrawn for a minor dental surgical procedure.

Key words: Antiplatelet drugs, dental extraction, minor surgery.

INTRODUCTION

Blood flow obstruction by a clot may cause ischemia and organ infarction. Thrombus formation is produced as consequence of vascular injuries, activation of the clotting process and blood flow disruption, this can happen at venous or arterial level. In arterial thrombosis the main etiologic factors are platelet activation and injuries to the arterial wall such as atheromatous plaques producing platelet rich thrombi. Blood Stasis and clotting are the main factors in venous thrombosis, producing thrombi rich in fibrin and erythrocytes.¹⁻⁴

Atherothrombosis, i.e., thrombus formation over an already present atherosclerotic plaque, causes cardiovascular diseases. The most important are stroke, coronary disease and peripheral vascular disease. Nowadays, these are the top mortality causes worldwide. The World Health Organization has declared that in the year 2030 approximately 23.6 million people will die every year due to cardiovascular complications. Therefore, antiplatelet therapy (APT) for a number of thrombotic conditions has increased in the last years in primary prevention (prophylactic) and secondary prevention.⁴⁻⁶ It is still a common practice among dentists and medical practitioners to discontinue aspirin therapy before any surgical procedure due to fear of excessive postoperative bleeding in patients on antiplatelet therapy. However, the stoppage of this medication may increase the risk of serious thromboembolism, myocardial infarction, or cerebrovascular accident and can be life threatening.⁶⁻⁸

Hence; the present study was undertaken for assessing the impact of anti-platelet therapy on minor dental procedures.

MATERIALS & METHODS

The present study was undertaken for assessing the impact of anti-platelet therapy on minor dental procedures. A total of 40 patients who came to department with the aim of getting dental extractions and who were on low-dose aspirin were enrolled. Patients with presence of uncontrolled bleed or with presence of any other co-morbid condition were excluded. Ethical approval was obtained from institutional ethical committee and written consent was obtained from all the patients after explaining in detail the entire research protocol. All the patients were broadly divided into two study groups:

Group 1: Patients in which no prior stoppage of aspirin was advised, and

Group 2: Patients in whom the drugs were stopped 5 days before the procedure

All the extraction procedures were carried out by same surgeons. Suturing was done after extraction followed by pressure pack placement in the extraction socket. Evaluation of bleeding was done after one hour and after twenty hour postoperatively. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software.

RESULTS

In the present study, a total of 40 patients were analysed and were divided into two study groups: group 1 and group 2. Mean age of the patients of group 1 and group 2 was 23.5 years and 25.4 years respectively. Mean preoperative bleeding time among group 1 and group 2 patients was 78.12 seconds and 79.18 seconds respectively. After one hour, no bleeding was seen in 18 patients of group 1 and 19 patients of group 2. After 24 hours, no bleeding was seen in 17 patients of group 1 and 16 patients of group 2. While comparing the postoperative bleeding at one hour and 24 hours, non-significant results were obtained.

Table 1: Comparison of preoperative bleeding time

Preoperative bleeding time (Seconds)	Group 1 (n=20)	Group 2 (n=20)
Mean	78.12	79.18
SD	5.6	6.2

Table 2: Comparison of postoperative bleeding after one hour

Variable	Group 1 (n=20)	Group 2 (n=20)
No bleeding	18	19
Active bleeding	0	0
Ooze	2	1
p- value	0.080	

Table 3: Comparison of postoperative bleeding after 24 hours

Variable	Group 1 (n=20)	Group 2 (n=20)
No bleeding	17	16
Active bleeding	0	0
Ooze	3	4
p- value	0.775	

DISCUSSION

An antiplatelet agent is described as a drug whose main effect is to inhibit the aggregation of thrombocytes and, therefore, the formation of a thrombus or clot inside the arteriovenous system. Any invasive or surgical procedure in the oral cavity involves intra and postoperative

haemorrhage, being one of the most frequent emergencies for a dentist. This way, patients undergoing antithrombotic therapy show a higher haemorrhage risk. One treatment option is the interruption of the antithrombotic therapy eliminating this way the haemorrhage risk, nevertheless, the interruption implies a increased risk of cerebrovascular or cardiac thromboembolism. For this reason, it is necessary to manage patients undergoing these types of pharmacological treatments in order to minimize haemorrhagic as well as thromboembolism risks.⁷⁻⁹ Hence; the present study was undertaken for assessing the impact of anti-platelet therapy on minor dental procedures.

In the present study, a total of 40 patients were analysed and were divided into two study groups: group 1 and group 2. Mean age of the patients of group 1 and group 2 was 23.5 years and 25.4 years respectively. Mean preoperative bleeding time among group 1 and group 2 patients was 78.12 seconds and 79.18 seconds respectively. Malik AH et al determined if aspirin or clopidogrel was associated with bleeding after minor oral surgical procedures. One hundred patients who were planned for extraction of the third molar were divided into two groups. In Group A, patients on antiplatelets were included and in Group B, patients who discontinued the drug before 5 days of procedure were included. The bleeding time of all patients was checked before extraction. The surgical procedure involved simple extraction of a single third molar tooth under local anesthesia. None of the patients showed active bleeding in the postoperative period. The results for postsurgical bleeding were statistically insignificant with $P = 0.05$. Minor surgical procedures such as single-tooth extraction can be carried out without discontinuation of the antiplatelet therapy.⁸

In the present study, after one hour, no bleeding was seen in 18 patients of group 1 and 19 patients of group 2. After 24 hours, no bleeding was seen in 17 patients of group 1 and 16 patients of group 2. Sáez-Alcaide LM et al presented a review on the dental management of the patients under antiplatelet treatment. A systematic review was carried out following PRISMA recommendations including studies searched in Pubmed-Medline, Embase and Cochrane databases. The current trend is to maintain the treatment during the surgical procedure, assuring a good control of the haemorrhage with local haemostatic measures. However, new antiplatelet drugs protocols are not firmly established. In spite of the existing recommendations, it is always advisable to consult with the internist or cardiologist of every patient before any intervention.⁹

In the present study, while comparing the postoperative bleeding at one hour and 24 hours, non-significant results were obtained. Villanueva J et al carried out a systematic review and meta-analysis of the best current evidence; The Cochrane Library, EMBASE and MEDLINE databases were searched for Randomized Controlled Trials (RCT) concerning patients undergoing oral surgery with APT, other relevant sources were searched manually. 5 RCTs met the Inclusion criteria. No clear tendency was observed ($RR = 0.97$ CI 95%: 0.41–2.34; $p = 0.09$; $I^2 = 51\%$), moreover, they weren't clinically significant. According to these findings and as bleeding is a manageable complication it seems unreasonable to undermine the APT, putting the patient in danger of a thrombotic event and its high inherent morbidity, which isn't comparable in severity and manageability to the former."¹⁰

CONCLUSION

From the above results, the authors concluded that antiplatelet drugs should not be withdrawn for a minor dental surgical procedure.

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