

Original Research

Antiplatelet drug therapy in patients undergoing minor oral surgical procedures

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ABSTRACT:

Background: Antiplatelet therapy is to treat thromboembolic disorders, but it causes hemorrhages. Aspirin is the drug in regular practice. The present study was conducted to assess dental treatment in patients on antiplatelet drug therapy. **Materials & Methods:** Seventy- five patients on antiplatelet drug therapy undergoing dental surgical procedure of both genders were divided into 3 groups. Group I had patients on mono drug therapy of antiplatelet drugs taking a dosage of 75 mg or 150 mg of aspirin, group II had patients on multiple drug therapy taking a dosage of 75 mg clopidogrel along with aspirin, and group III had patients not taking any antiplatelet drug therapy (control group). Levels of hemostatic measures taken were categorized from level 1 to level 5. **Results:** Group I had 15 males and 10 females, group II had 12 males and 13 females and group III had 11 males and 14 females. Local hemostatic measures level 1, level 2 and level 3 with alveoloplasty was seen in 9, 2 and 1, extraction in 4, 1 and 0, biopsy in 2, 1 and 0, tori removal in 1, 2 and 0 and TA extraction in 0, 1 and 1 respectively. Local hemostatic measures level 1, level 2 and level 3 with alveoloplasty was seen in 7, 3 and 1, extraction in 2, 4 and 0, biopsy in 3, 2 and 0, tori removal in 1, 1 and 0 and TA extraction in 0, 1 and 0 respectively. Local hemostatic measures level 1, level 2 and level 3 with alveoloplasty was seen in 8, 3 and 1, extraction in 3, 2 and 0, biopsy in 3, 1 and 0, tori removal in 2, 1 and 0 and TA extraction in 1, 0 and 0 respectively. **Conclusion:** Antiplatelet therapy need not to be stopped prior to dental procedures. The bleeding risk is very low and local hemostatic measures are usually successful.

Key words: Antiplatelet therapy, dental, hemostatic

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INTRODUCTION

Antiplatelet therapy is to treat thromboembolic disorders, but it causes hemorrhages. Aspirin is the drug in regular practice.¹ Currently available antiplatelet agents include acetylsalicylic acid (aspirin), thienopyridines (clopidogrel, ticlopidine) IIb/IIIa platelet receptor inhibitors and phosphodiesterase inhibitors, which act upon the

different phases of activation.² The protective effects of APT against cardiovascular disease have been clearly and concisely demonstrated throughout the groups at higher risk. Treatments carried out in the oral cavity, especially those that may cause blood extravasation, imply a high risk of perioperative bleeding in patients with an altered hemostasis. Although a 90% of minor postoperative bleedings are

due to local factors such as the anatomical situation, excessive surgical trauma and/or not following postoperative indications, most of the severe bleedings are related with systemically alterations that compromise the primary or secondary hemostasis mechanisms.³

Clopidogrel is another alternative for aspirin. Dental patients under antiplatelet therapy are at a high risk and it is always a debate to stop it or not prior procedure. Studies recommended discontinuing aspirin usage for 7–10 days or at least for duration of 3 days.⁴ Thromboembolic events can occur, causing severe cardiac complications. Most of the dental surgical procedures carry a low risk of bleeding, and any excessive bleeding can be controlled by local hemostasis. Platelet interaction and cardiovascular disease progression remain an unsolved riddle for many years.⁵ The present study was conducted to assess dental treatment in patients on antiplatelet drug therapy.

MATERIALS & METHODS

The present study comprised of seventy- five patients on antiplatelet drug therapy undergoing dental surgical procedure of both genders. They were selected once they agreed to participate in the study.

Data such as name, age, gender etc. was recorded. All patients were divided into 3 groups. Group I had patients on mono drug therapy of antiplatelet drugs taking a dosage of 75 mg or 150 mg of aspirin, group II had patients on multiple drug therapy taking a dosage of 75 mg clopidogrel along with aspirin, and group III had patients not taking any antiplatelet drug therapy (control group).

Parameters such as vital signs, bleeding time, clotting time, dosage and duration of antiplatelet therapy was recorded. All patients underwent oral surgical procedures. Levels of hemostatic measures taken were categorized from level 1 to level 5: level 1 - pressure pack application, level 2 - suturing, level 3 - local hemostatic agents and suturing, level 4 - surgical diathermy, and level 5 - platelet transfusion. Clinically significant bleeding can be classified as continues beyond 12 hours, causes the patient to call or return to the dental practitioner or to the accident and emergency department, results in the development of a large hematoma or ecchymosis within the oral soft tissues or requires a blood transfusion. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Groups	Group I	Group II	Group III
Agent	75 mg or 150 mg of aspirin	75 mg clopidogrel along with aspirin	Control
M:F	15:10	12:13	11:14

Table I shows that group I had 15 males and 10 females, group II had 12 males and 13 females and group III had 11 males and 14 females.

Table II Local hemostatic measures taken for group I patients

Procedure	Level 1	Level 2	Level 3	P value
Alveoloplasty	9	2	1	0.01
Extraction	4	1	0	
Biopsy	2	1	0	
Tori removal	1	2	0	
TA extraction	0	1	1	
Total	16	7	2	

Table II, graph I shows that local hemostatic measures level 1, level 2 and level 3 with alveoloplasty was seen in 9, 2 and 1, extraction in 4, 1 and 0, biopsy in 2, 1 and 0, tori removal in 1, 2 and 0 and TA extraction in 0, 1 and 1 respectively. The difference was significant ($P < 0.05$).

Graph I Local hemostatic measures taken for group I patients

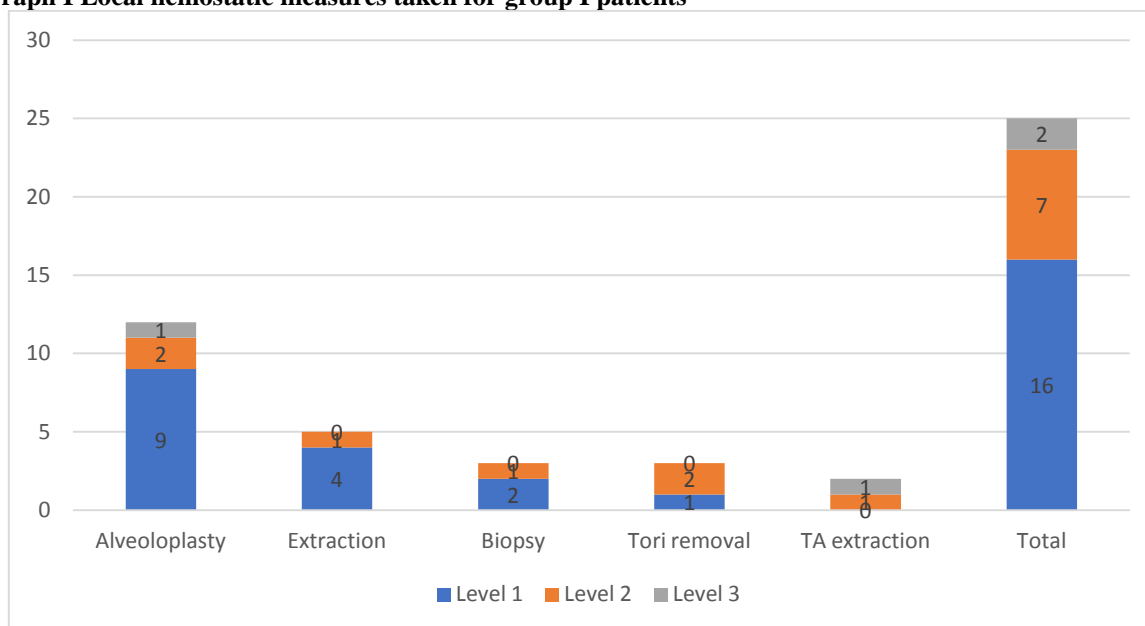


Table III Local hemostatic measures taken for group II patients

Procedure	Level 1	Level 2	Level 3	P value
Alveoplasty	7	3	1	0.01
Extraction	2	4	0	
Biopsy	3	2	0	
Tori removal	1	1	0	
TA extraction	0	1	0	
Total	13	11	1	

Table III, graph II shows that local hemostatic measures level 1, level 2 and level 3 with alveoplasty was seen in 7, 3 and 1, extraction in 2, 4 and 0, biopsy in 3, 2 and 0, tori removal in 1, 1 and 0 and TA extraction in 0, 1 and 0 respectively. The difference was significant ($P < 0.05$).

Graph II Local hemostatic measures taken for group II patients

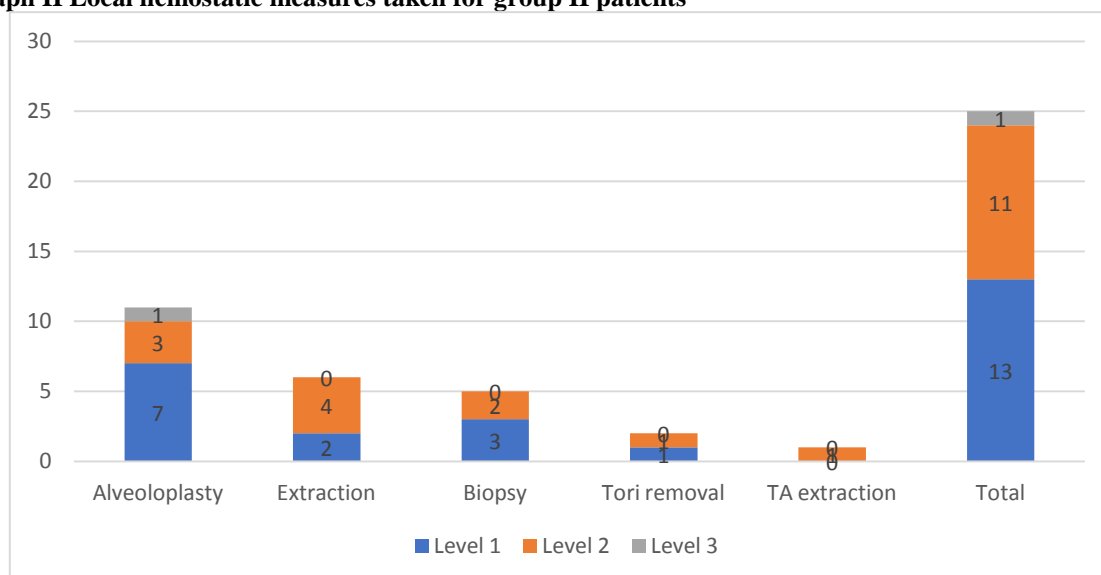


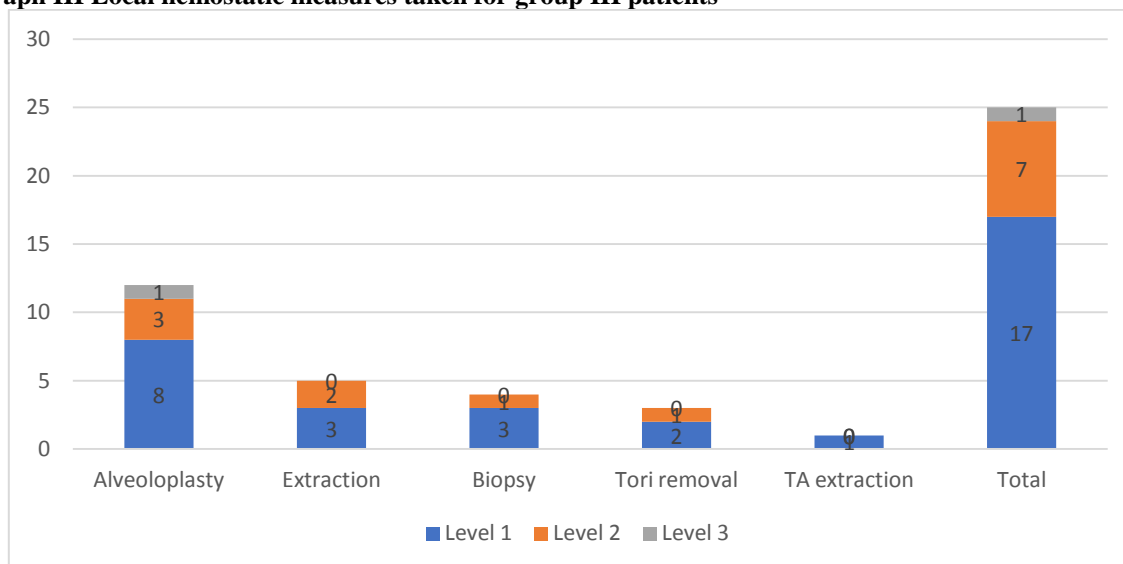
Table IV Local hemostatic measures taken for group III patients

Procedure	Level 1	Level 2	Level 3	P value
Alveoplasty	8	3	1	0.01
Extraction	3	2	0	
Biopsy	3	1	0	

Tori removal	2	1	0
TA extraction	1	0	0
Total	17	7	1

Table IV, graph III shows that local hemostatic measures level 1, level 2 and level 3 with alveoloplasty was seen in 8, 3 and 1, extraction in 3, 2 and 0, biopsy in 3, 1 and 0, tori removal in 2, 1 and 0 and TA extraction in 1, 0 and 0 respectively. The difference was significant ($P < 0.05$).

Graph III Local hemostatic measures taken for group III patients



DISCUSSION

The fear of a postoperative hemorrhagic event is well known in medical and dental practice. Fortunately, minor oral surgery jeopardizes anatomical sites that favor hemostatic control.⁶ These sites are frequently surrounded by bone tissue, meaning that there more possible areas over which pressure can be applied as well as other hemostatic measures, also, there is usually less soft tissue that could generate bleeding, although irrigation is vast in this area.⁷ Moreover, the oral cavity is easy to supervise for the patient as well as the clinician, which enables early detection and opportune treatment of any possible complication.⁸ Likewise, diverse studies regard postoperative bleeding cases mostly manageable with routinary hemostatic measures, such as pressure with a gauze, hemostatic material application, sutures with or without pro hemostatic agents like tranexamic acid.⁹ The present study was conducted to assess dental treatment in patients on antiplatelet drug therapy. We found that group I had 15 males and 10 females, group II had 12 males and 13 females and group III had 11 males and 14 females. Kumar et al¹⁰ assessed risk of bleeding in patients continuing antiplatelet medication while performing minor oral surgical procedures such as single or multiple teeth extraction, transalveolar extraction of third molar, biopsy, and alveoloplasty in patients under antiplatelet drug therapy (Group A [n = 64] - aspirin, Group B [n = 36] - aspirin and clopidogrel) and in patients without any drug therapy (Group C [n = 100] healthy patients). Out of 200 patients, Level 1 hemostatic measures were required for 129 (64.5%) patients, Level 2

hemostatic measures were taken for 68 (34.0%) patients, and Level 3 hemostatic measures were taken for 3 (1.5%) patients. Chi-square test conducted to compare the local hemostatic measures taken for minor oral surgical procedure for all groups was statistically significant ($P \leq 0.001$). We found that local hemostatic measures level 1, level 2 and level 3 with alveoloplasty was seen in 9, 2 and 1, extraction in 4, 1 and 0, biopsy in 2, 1 and 0, tori removal in 1, 2 and 0 and TA extraction in 0, 1 and 1 respectively. Villanueva et al¹¹ in their systematic review and meta-analysis of the best current evidence was carried out; 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; I2= 51%), moreover, they weren't clinically significant. Conclusions: 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. We found that local hemostatic measures level 1, level 2 and level 3 with alveoloplasty was seen in 7, 3 and 1, extraction in 2, 4 and 0, biopsy in 3, 2 and 0, tori removal in 1, 1 and 0 and TA extraction in 0, 1 and 0 respectively. We observed that local hemostatic measures level 1, level 2 and level 3 with alveoloplasty was seen in 8, 3 and 1, extraction in 3, 2

and 0, biopsy in 3, 1 and 0, tori removal in 2, 1 and 0 and TA extraction in 1, 0 and 0 respectively. According to Brennan et al¹², immediate postoperative bleeding lasts about 15 min in healthy patients after which the wound continues to release small amounts of blood up to 12 h, which is part of physiological process. According to the American College of Surgeons advanced trauma life support classification, <750 ml (15% of total blood volume) blood loss will not cause any significant alteration in the hemodynamic balance.

CONCLUSION

Authors found that antiplatelet therapy need not to be stopped prior to dental procedures. The bleeding risk is very low and local hemostatic measures are usually successful.

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