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Evaluation of post- extraction bleeding in patients taking low dose aspirin (75mg)

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Abstract

Aims and objectives: The purpose of the study is to assess the need of interrupting aspirin therapy in patients who were on low dose aspirin therapy (75 mg) prior to dental extraction by assessment of post extraction bleeding time in case of cardiac patients.

Patients and Methods: This cross-sectional study was conducted in the department of Oral and Maxillofacial Surgery, Indira Gandhi Govt. Dental College, Jammu. 40 patients were taken in the study that were divided into two groups (Group A and Group B) having 20 patients in each group.

Group A patients who were taking aspirin (low dose 75 mg) once daily and had stopped aspirin therapy seven days before their extraction. Group B patients who continued to receive aspirin therapy (75 mg) before their extraction.

Bleeding time after extraction of tooth were assessed between two groups.

Result: No significant difference were noted in bleeding time after extraction of tooth between two groups

Conclusion: According to this study, there is no need to stop low dose aspirin therapy (75mg) and the local haemostatic measures are sufficient to control bleeding.

Keywords: Aspirin, Bleeding time, Antiplatelet drugs, blood loss, dental extraction, hemorrhage.

Introduction

Post- extraction bleeding is a complication that is frequently experienced by a dentist in dental practice. Incidence varies from 0 to 26%. Criteria for post-extraction bleeding are-

1. If post-extraction bleeding last more than 12 hours.
2. If the patient go to the emergency department.

3. If there is development of large haematoma or ecchy mosis within the oral soft tissue.

4. Requirement of blood transfusion, hospitalization or both[1].

Local cause includes bleeding from soft tissues whereas systemic causes include platelet disorders, excessive fibrinolysis or coagulative disorder.

Aspirin also known as Acetyl salicylic acid is an potent analgesic, antipyretic and anti-inflammatory agent used as an medication to prevent platelet aggregation.

It is indicated for long term use in the patients who suffered from stroke, angina or myocardial infarction and are susceptible to formation of emboli[2].

Aspirin is a known anti-thrombotic agent and its effect is mediated by enzyme cyclo-oxygenase activity in platelet. On activation, Phospholipase A2 acts on the cell membrane in order to release arachidonic acid. Cyclo-oxygenase act on arachidonic acid to produce thromboxane A2. Thromboxane A2 is a potent platelet stimulant leads to degranulation of platelet and platelet aggregation.

Aspirin inhibits cyclo-oxygenase enzyme and decrease the level of thromboxane A2 (platelet stimulant) thereby increase bleeding time[3].

Local intervention includes common haemostatic agents such as gel foam, oxidised cellulose, thrombin, cyano acrylate glue or surgical splints. Systemic interventions are required in patients who have systemic cause of bleeding that includes administration of fresh frozen plasma, platelets or both. Christmas factor in case of haemo philia, intra nasal desmo press in, oral or intra venous tranexamic acid or intra venous epsilon amino d caproic acid[1].

It is a common practice among dentists to stop aspirin prior to tooth extraction because of fear of bleeding complication.

The risk of stopping the anti-platelet therapy predispose the patient to thromboembolic events which in turn decrease the risk of bleeding from dental procedure which can be controlled by low hemostatic measures.

Aims and Objectives

The purpose of the study is to assess the need of interrupting aspirin therapy in patients who were on low dose aspirin therapy prior to dental extraction by assessment of post-extraction bleeding time in case of cardiac patients.

Materials & methods

This cross-sectional study was conducted in the department of Oral and Maxillofacial Surgery, Indira Gandhi Govt. Dental College, Jammu. 40 patients were taken in the study that were divided into two groups (Group A and Group B) having 20 patients in each group.

Group A patients who were taking aspirin (low dose 75 mg) once daily and had stopped aspirin therapy seven days before their extraction. Group B patients who continued to receive aspirin therapy (75 mg) before their extraction.

The blood pressure of all the subjects was recorded pre-operatively. The extractions were done least traumatically as possibly under local anaesthesia. The subject was instructed to apply pressure on a piece of sterile gauze for 30 minutes. Evaluation was done in every 3 minutes during the 15 minutes time period. They were discharged after bleeding stop with advice and contact information.

Inclusion Criteria

1. Patients on anti-platelet therapy. (Low dose 75 mg)

Exclusion Criteria

1. Patients with congenital or acquired bleeding disorders with potential for bleeding.

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2. History of renal or Liver disease, bone marrow disorders.

3. Alcoholic patients.

Result

A total of 40 participants were included in the study. Out of 40 patients 25 were males and 15 were females. The total study participants were divided into two groups. Control group and experimental group (Aspirin group), 20 patients in each group.

In the control group (Group A) there were 12 males and 8 females and the mean age in this group was 34.4 years whereas in experimental group (Group B) there were 13 males and 7 females and the mean age in this group were 39.4 years.

No significant difference was seen with respect to age among the two groups [Table 1, Fig. 1]. Male were significantly more (60%) in the control group than females (40%) and in experimental group male were 65% and female were 35% in experimental group [Table 2, Fig. 2].

Table 1: Age distribution of study patients in two groups

Group	N	Mean	SD	Range	P-value
Group A	20	34.4	14.93	17-70	0.313
Group B	20	39.4	15.98	20-80	

Graph 1:

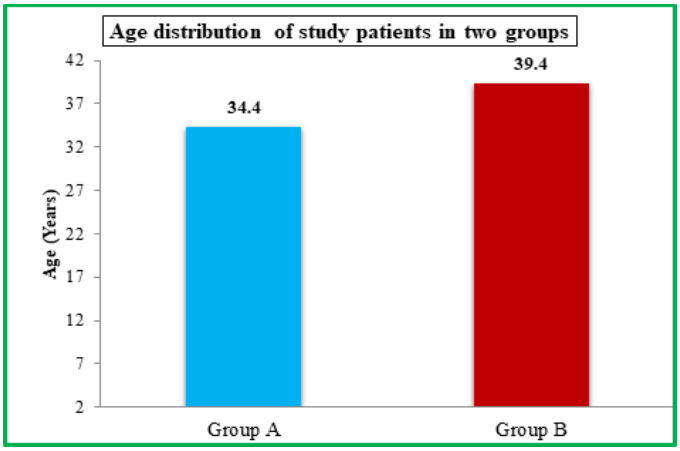
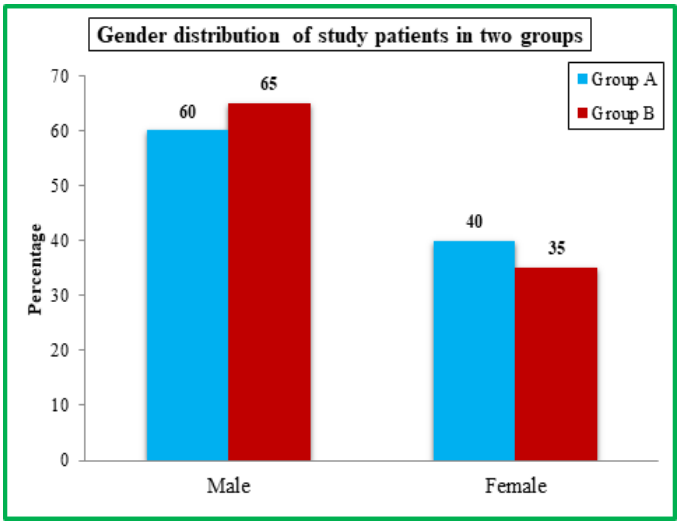


Table 2: Gender distribution of study patients in two groups

Gender	Group A		Group B		P-value
	No.	%age	No.	%age	
Male	12	60	13	65	0.744
Female	8	40	7	35	
Total	20	100	20	100	

Graph 2:



In present study, bleeding time (in minutes) in Group A (Control group) was 4.15 min. and in Group B (Experimental group) was 4.35 min. There was no significant difference between two groups in term of bleeding time. (P= 0.314) [Table-3, Fig.3]

Table 3: Comparison based on bleeding time (minutes) in two groups

Group	N	Mean	SD	Range	95% CI	P-value
Group A	20	4.15 min.	0.56	3-5	3.9-4.5	0.314
Group B	20	4.35 min.	0.67	3.5-6	4.1-4.7	

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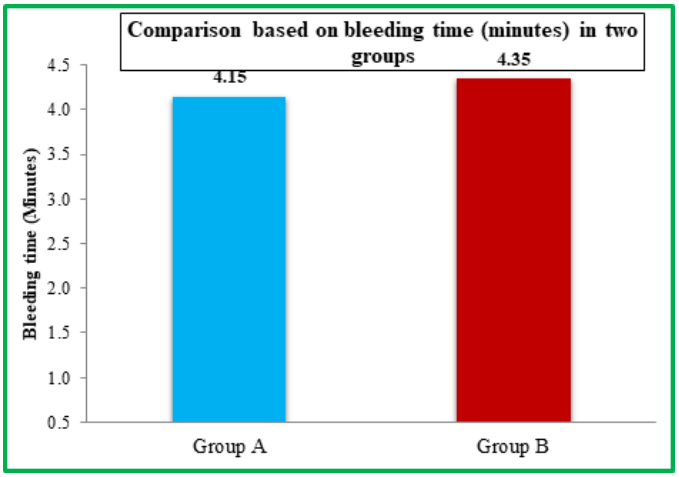
Graph 3:



Discussion

Cardiac patients who are on aspirin therapy may require extraction of decayed teeth. Commonly oral surgeons prefer to stop aspirin therapy some days (7 days) before extraction of teeth because of fear of excessive bleeding after extraction of teeth. There are some isolated cases in which excessive bleeding is seen after extraction of teeth.

In present study, bleeding time (in minutes) in Group A (Control group) was 4.15 min. and in Group B (Experimental group) was 4.35 min

No significant difference was seen in Group A (Control group) and Group B (Experimental Group) in terms of bleeding time [p=0.134] [Table 3] [Fig.3]

No radical steps were needed to stop bleeding after tooth extraction in both the groups.

Finding of the study supported the fact that stopping or interruption of anti- platelet therapy prior to dental procedure is unnecessary. The risk of bleeding is very low that can be managed by haemostatic measures[2]. Similar results were seen in other studies[4,5].

However, some studies advocate the practice of stoppage of aspirin before dental procedure. According to literature, the aspirin imparts irreversible effect on the platelets. This effect lasts for the whole life span of platelets which is 7-10 days. Therefore, it was recommended to stop the aspirin therapy 7 days prior to any surgical procedure[6,7,8].

Study by Sonksen et al recommended not to withdraw the aspirin for more than 5 days[9].

Wahl et al advocate that the aspirin should be discontinued only for 3 days, since after 3 days of interruption of aspirin therapy, sufficient number of the newer platelets would be present in the circulation for hemostasis[10,11].

Conclusion

In the light of our results, we suggest that there is no need to expose patients to the risk of thromboembolism or myocardial infarction. They should continue to receive their daily dose of aspirin.

According to this study there is no need to stop low dose aspirin therapy (75 mg) and the local haemostatic measures are sufficient to control bleeding after extraction of tooth.

Statement of Ethics

This research complies with the guidelines for human studies and was conducted after clearance from Ethical Committee of the Institution.

Acknowledgments: We thanks all the participants and non- teaching staff of our department.

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