

## Internship Dentists' Knowledge and Attitude toward Dental Management of Patients on Anti-Platelets Drugs

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**Abstract:** Antiplatelet drugs are used in primary and secondary prevention of cardiovascular problems. Dental treatments of patients taking antiplatelet drugs still unclearly defined. The discontinuation of antiplatelet therapy raises the risk of thrombotic complications, whereas the continuation of antiplatelet therapy is assumed to increase the bleeding complications after dental surgical procedures.

**Objectives:** The aim of this study was to evaluate the knowledge and attitude of internship dentists of Alfarabi dental college toward the management of patients on antiplatelet therapy.

**Materials and methods:** Anonymous survey (11 questions) forms were distributed among the internship dentist in Alfarabi dental college. 119 dentists filled the questionnaire completely. The data were collected, statistically analyzed, and results were obtained.

**Results:** 73.95% of the participants in this survey preferred to refer the patient to physician during treating patients with antiplatelet drugs. About 49.57% of internship dentists have went with the choice that minor surgical procedures cannot be performed safely, without discontinuation the antiplatelet therapy. 43.7% of participants agreed that local hemostatic measures can control bleeding in a patient on antiplatelet therapy during dental treatment.

**Conclusion:** The findings from current study suggests that there is a great need to educate internship dentists to use evidence based guidelines in terms of dental treatment for patients on antiplatelet therapy.

**Keyword:** Antiplatelet drugs, complication, Bleeding, Aspirin, and Anticoagulant.

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### I. Introduction

Antiplatelet therapy is recommended to prevent the thromboembolic events, including the stroke and myocardial infarction (1). It has reduced the mortality rate and the complications of cardiovascular diseases evidently. A clinical controversy exists whether to discontinue the antiplatelet therapy or to continue during the dental procedures. Stopping antiplatelet medications may expose patients to life-threatening thromboembolic events, while reducing the risk of bleeding complications. Continuing antiplatelet therapy during surgery minimizes the risk of thromboembolic complications but increases the risk of hemorrhage. Cardiovascular diseases account for the highest percentage of mortality and morbidity worldwide (2). Most current recommendations are to perform the simple procedures such as tooth extraction under continued antiplatelet or anticoagulation therapy. It is not recommended to interrupt therapy with aspirin (antiplatelet drugs) for tooth extractions (3, 4). We conducted this questionnaire on internship dentists of our college to evaluate their knowledge and attitude toward dental management of patients on antiplatelet therapy.

### II. Materials And Methods

119 survey forms were distributed to the internship dentists and they were not being obliged for completing or returning the survey forms. The questionnaires included 11 questions on the knowledge and attitude of internship dentists of Alfarabi dental college toward the management of patients on antiplatelet therapy. Descriptive statistical methods were used to evaluate the data. The questionnaire distributed in this study is similar to that used in study of Santhosh Kumar conducted in India (5).

### III. Results

The sample of this study is divided according to the gender as it is recorded in (Table 1). As it is seen in (Table 2);27.73% of participants have said that aspirin has to be stopped 7 days before dental treatment, 23.52% 5 days prior, 21.85% 1 day prior, 2.52% 9 days prior, and 18.50% 3 days prior.43.70% of participants agreed that stopping antiplatelet drug can cause thromboembolism, 33.62% stated that discontinuing it will lead to excessive bleeding. (Table3).49.57% of internship dentists have stated that minor surgical procedures cannot be carried out safely, without stopping the antiplatelet medication (Table 4).43.70% of participants mentioned that local hemostatic measures can control bleeding in a patient on antiplatelet therapy during dental treatment (Table 5).64.71% of dentists told that (NSAIDs) group of drugs will interact with antiplatelet drug, but 54.62% told that antibiotics group of drugs will not interact with it (Table 6).73.95% of participants preferred to refer the patient to physician during treating on antiplatelet medications (Table 7).68.07% of internship dentists preferred to wait until antiplatelet treatment is completed before performing a dental procedure (Table 8).61.34% of participants declared that dental treatment during antiplatelet therapy can cause bleeding (Table9).45.38% of participants answered that Clopidogrel is an antiplatelet drug, 38.66% of them answered that Dipyridamole is also an antiplatelet drug, while 59.66% go to say that warfarin is an anti-coagulant (Table 10).45.38% of internship dentists have told that patients on antiplatelet dual therapy (Aspirin + Clopidogrel) should be treated very cautiously after consulting with the physician/cardiologist (Table 11).

### IV. Discussion

Antiplatelet agents are used to prevent and treat the cardiovascular and cerebrovascular problems (6). The most commonly used antiplatelet drugs include aspirin and clopidogrel.Ringel and Maas found that before dental procedures, such as simple tooth extractions, antiplatelet therapy, and especially oral anticoagulants, is still more frequently discontinued than clinically recommended and the decision to discontinue the protective medication is mostly taken in Consultation with the general practitioner or specialist of the patients and this support our results (7, 6). Evidence suggests that stoppage of antiplatelet therapy before dental procedure may increase risk of thromboembolic events and this is in accordance with current research (8, 9). American College of Physicians, American College of Surgeons, American Dental Association, National Health Service, The American Heart Association, American College of Cardiology, Society for Cardiovascular Angiography and Interventions, and numerous authors recommend either maintaining double antiplatelet therapy in dental interventions and applying the necessary local hemostatic measures to control the hemorrhage or delaying the intervention until the dual therapy can be withdrawn without risk (10, 11). When they prescribed ibuprofen for pain relief, they did not consider the drug interactions between aspirin and brufen. However, (64.71%) in our study had knowledge about drug interactions between aspirin and NSAID's. The American College of Chest Physicians' Evidencebased Clinical Practice Guideline (2012) advises practitioners not to stop any oral antithrombotic medications before or during most dental procedures (10, 12). In 2014 direct comparison of clopidogrel indicate that it is a slightly more effective antiplatelet drug than aspirin,the mechanism is not fully understood but it is thought to act by inhibiting adenosine uptake into platelets and reducing ADP-induced aggregation (14). Warfarin is anti-coagulant interferes with production of the body's natural anticoagulants, protein C and protein S, and can therefore sometimes exert a procoagulantresponse (15).

### V. Tables

**Table (1): Sample distribution according to the gender of participants.**

Q	N	%
<b>Gender</b>		
Male	41	34.45%
Female	78	65.54%

**Table (2): Sample distribution according to the knowledge about the stoppage of aspirin before dental treatment.**

Q	N	%
<b>Aspirin has to be Stopped</b>		
1 day before dental treatment	26	21.85%
3 days before dental treatment	22	18.50%
5 days before dental treatment	28	23.52%
7 days before dental treatment	33	27.73%
9 days before dental treatment	3	2.52%
I don't know	3	2.52%

**Table (3): Sample distribution according to the knowledge about the effect of discontinuing antiplatelet drugs.**

Q	N	%
<b>Effect of discontinuing antiplatelet drugs can lead to</b>		
Excessive bleeding	40	33.62%
Thrombo-embolism	52	43.70%
Pneumonia	16	13.44%
Nothing will happen	11	9.24%

**Table (4): Sample Distribution According To The Knowledge About The Safety Of Performing Minor Surgery During Antiplatelet Therapy.**

Q	N	%
<b>Minor surgical procedures cannot be carried out safely, without stopping the antiplatelet medication</b>		
Yes	59	49.57%
No	50	42.01%
I don't know	10	8.40%

**Table (5): Sample distribution according to the knowledge about the management of bleeding in a patient on antiplatelet therapy during dental treatment**

Q	N	%
<b>Local hemostatic measures can control bleeding in a patient on antiplatelet therapy during dental treatment</b>		
Yes	52	43.70%
No	56	47.05%
I don't know	11	9.25%

**Table (6): Sample distribution according to the knowledge about drug interactions of antiplatelet**

Q	N	%
<b>(NSAIDs) group of drugs will interact with antiplatelet drug</b>		
Yes	77	64.71%
No	28	23.53%
I don't know	14	11.76%
<b>Antibiotics group of drugs will interact with antiplatelet drug</b>		
Yes	41	34.45%
No	65	54.62%
I don't know	13	10.93%

**Table (7): Sample distribution according to refer preference of patient on antiplatelet medications to his physician**

Q	N	%
<b>You prefer to refer the patient on antiplatelet medications to his physician</b>		
Yes	88	73.95%
No	31	26.05%

**Table (8): Sample distribution according to the decision to defer/not to defer the dental treatment of patient on antiplatelet medications.**

Q	N	%
<b>Defer dental treatment during antiplatelet therapy</b>		
Yes	81	68.07%
No	29	24.37%
I don't know	9	7.56%

**Table (9): Sample distribution according to the effect of dental treatment on the patient taking antiplatelet medications.**

Q	N	%
<b>Dental treatment during antiplatelet therapy causes bleeding</b>		
Yes	73	61.34%
No	37	31.09%
I don't know	9	7.57%

**Table (10): Sample distribution according to the knowledge about the effect of Clopidogrel, Dipyramole and Warfarin.**

Q	N	%
<b>The action of Clopidogrel is</b>		
Anti-coagulant	65	54.62%
Anti-platelets	54	45.38%
<b>The action of Dipyridamole is</b>		
Anti-coagulant	73	61.34%
Anti-platelets	46	38.66%
<b>Action of Warfarin on platelets is</b>		
Anti-coagulant	71	59.66%
Anti-platelets	48	40.34%

**Table (11): Sample distribution according to the knowledge about the management of patients on dual antiplatelet therapy (Clopedogrel + Aspirin).**

<b>Management of patients on dual antiplatelet therapy(Clopedogrel+ Aspirin) is</b>		
He should be treated very cautiously after consulting with the physician/cardiologist	54	45.38%
By stopping drugs before extraction	45	37.81%
I don't know	20	16.81%

## VI. Conclusion

Educational programs or workshops related to the subject can increase the awareness of internship dentists to update their knowledge and practice related to managing patients on antiplatelet therapy before dental treatment. The findings from current study suggests that there is a need to educate internship dentists to use evidence based guidelines in terms of dental treatment for patients on antiplatelet therapy

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