

Clopidogrel Is Not Associated with Increased Bleeding Complications After Full Mouth Extraction and Pre-prosthetic Surgery: A Retrospective Study

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INTRODUCTION

While there is evidence that supports continued antiplatelet use prior to simple dental extractions [1], full mouth extraction is associated with higher risk of bleeding with no available guidelines for antiplatelet management which creates significant variation in practice. The decision to continue anti-platelet therapy to avoid cardiac events or withhold to reduce the risk of blood loss is challenging. The effect of clopidogrel on bleeding complications after full mouth extraction has not been previously studied. The objective of this study was to determine whether continued clopidogrel use was associated with significant bleeding complications during full mouth extraction.

METHODS

After IRB approval, a retrospective chart review was conducted on patients undergoing full mouth extraction who were taking aspirin, clopidogrel, a combination of aspirin and clopidogrel or neither. The surgery was performed by a single physician at a single surgical site. The patients were classified as having stopped therapy when the last administered antiplatelet dose was recorded three or more days prior to surgery. Those who were concomitantly on anticoagulant therapy with coumadin or heparin products were excluded. The main endpoints were: estimated blood loss, transfusion requirements, cardiac and procedure-related complications. Blood loss was calculated using a 40mL Lukens Trap and a weight estimation of all sponges, linen goods, and throat packs before and after surgery to account for blood absorption. Descriptive statistics were reported for all continuous variables. Continuous data were expressed as mean ± standard deviation and compared using two-tailed independent Students t-tests. The association between number of teeth extracted and the consumption of antiplatelets or clopidogrel was calculated using Pearson correlation coefficient. P < 0.05 is considered significant. Data were analyzed using IBM SPSS 21.0 statistical software (IBM SPSS, Version 21.0. Armonk, NY).

RESULTS

Between March 2012 and December 2013, we found 71 patients who underwent full mouth extraction involving the removal of 5 to 31 teeth. Four cases were excluded due to lack of blood loss data. Of the remaining 67 cases, 24 were on aspirin, 11 on clopidogrel, 9 on both aspirin and clopidogrel and 23 discontinued antiplatelet medications. There were no significant differences in baseline demographics and comorbidities besides for prior PCI [Table 1]. There was no significant difference in average blood loss in the 4 groups (32 mL in aspirin group, 47 mL in clopidogrel group, 37 mL in aspirin and clopidogrel group, 36 mL in group not on antiplatelets, P= NS) [Fig. 1]. No correlation was found between EBL and the number of teeth extracted for the group not taking antiplatelet therapy (r= .37, P=.079) [Table 2]. In the group of patients taking clopidogrel whether alone or in combination with aspirin, there was a significant moderate correlation between the number of teeth extracted and blood loss (r = 0.537, P = 0.015) [Table 2]. No cardiac-related events were recorded for patients that stopped antiplatelet therapy prior to surgery.

Table 1: Baseline demographics and clinical characteristics

	No AP	ASA	Clopidogrel	ASA & clopidogrel	P value
N (%)	23 (34.3%)	24 (35.8%)	11 (16.4%)	9(13.4%)	NA
Age (m±SD)	56±9	59±13	62±12	58±6	0.49
Female n (%)	18 (78.3)	13 (54.2)	6 (54.5)	6 (66.7)	0.4
CAD n (%)	7 (30.4)	8 (33.3)	6 (54.5)	7 (77.8)	0.09
DM n (%)	11 (47.8)	11 (45.8)	7 (63.6)	6 (66.7)	0.56
HTN n (%)	19 (82.6)	19 (79.2)	11 (100)	9 (100)	0.31
Prior PCI n (%)	1 (4.3)	2 (8.3)	6 (54.5)	4 (44.4)	0.001*
MI n (%)	3 (13)	4 (16.7)	3 (27.3)	5 (55.6)	0.09
Stroke n (%)	5 (21.7)	8 (33.3)	2 (18.2)	2 (22.2)	0.79

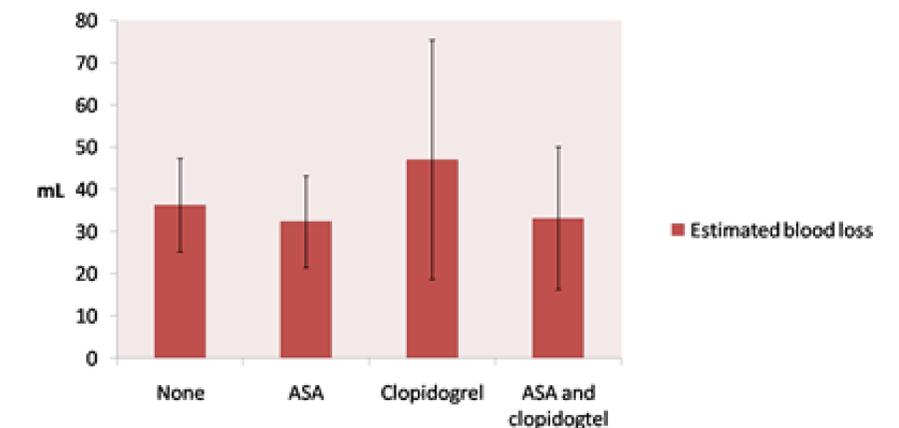
CAD; coronary artery disease, DM; diabetes mellitus, HTN; hypertension, MI; myocardial infarction, AP antiplatelet, PCI; percutaneous coronary intervention, ASA; aspirin

Table 2: Correlation between number of teeth extracted and EBL in those not taking antiplatelets and those taking clopidogrel either alone or in combination with aspirin.

	N	EBL	Teeth Extracted	Correlation	P value
No antiplatelet	23	36.2 ± 11.1	16.1 ± 6.5	r = 0.374	0.079
Clopidogrel or ASA & clopidogrel	20	40.8 ± 24.4	18 ± 6.8	r = 0.537	0.015*

N; number of cases, EBL; estimated blood loss, * statistically significant.

Figure 1: Estimated blood loss in 4 groups according to their antiplatelet regimen. P = 0.126



CONCLUSIONS

Continued clopidogrel use is not associated with bleeding complications after full mouth extraction and can be safely continued perioperatively in patients with high cardiac risk or recent coronary intervention with no added bleeding complications. These data suggest that dual antiplatelet therapy can safely be continued perioperatively in patients with high cardiac risk or recent coronary intervention with no added bleeding complications.

REFERENCES

1. Park MW, Her SH, Kwon JB, et al. Safety of Dental Extractions in Coronary Drug-eluting Stenting Patients. Clin Cardiol 35, 4, 225-230 2012.