Which Laboratory Investigation Should be Ordered to Assess Haemostasis in Patients on Platelet Function Altering Medications?

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Received: 7 July 2013 / Accepted: 7 October 2013 / Published online: 18 October 2013
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It is not uncommon to come across patients on platelet altering medications requiring a minor oral surgical procedure in clinical practice. Although, now it remains an evidence based common consensus among practicing maxillofacial and oral surgeons to not to stop platelet altering medication before a minor oral surgical procedure, many clinicians prefer to assess bleeding parameters before a surgical intervention. It is usually noticed that the laboratory investigation(s) ordered to assess haemostasis in patients on platelet altering medications are irrelevant or unnecessary. In cases where the treating clinician/dentist prefers to order a laboratory investigation, it should be targeted to serve the intended purpose. Stopping the low-dose aspirin 7–10 days before

oral surgery procedures is still being practiced by some clinicians due to the mere fear of a bleed intra or post operatively, which renders the patient to an increased risk of a thromboembolic event. Similarly some clinicians prefer stopping other platelet altering medications too. Currently there is sufficient clinical evidence available to support non-stoppage of platelet altering medications for a minor oral surgical procedure in patients taking these drugs for various medical problems. The benefit of prevention of a thromboembolic episode in a patient outweighs the risk of minor bleeding, that if happens can be easily controlled by local measures. Ordering haematological investigation to assess haemostasis purely remains a treating clinician's personal preference and may be wise at some centers for legal purposes and prevention of litigations. The commonly prescribed platelet altering medications in clinical use are aspirin, clopidogrel and dipyridamole. Each of these medications has a well defined and specific mechanism of action to produce the desired pharmacological effect. (Table 1) [1] The best screening test recommended to assess the effect of platelet altering medications on cessation of bleeding may be evaluated with the platelet function analyser, which may not be available at all haematological laboratories. The Ivy bleeding time is the alternate test to assess and screen patients on platelet function altering medication. [2] It needs emphasis that investigations that assess coagulation cascade like prothrombin time (PT), partial thromboplastin time (PTT) or activated partial thromboplastin time (aPTT) and international normalized ratio (INR), have 'no' role in screening patients on medication that alter platelet function. Some authors do not recommend any laboratory monitoring for patients on aspirin therapy as bleeding time test is not a very reliable indicator of anticipating post-surgical haemorrhage in these patients [3].

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Table 1 Mechanism of action (MOA) of commonly prescribed antiplatelet drugs

Drug	MOA
Aspirin	Alters the cyclooxygenase pathway by inhibiting this enzyme thus affecting the formation of prostaglandins and thromboxane A ₂ which are involved in platelet activation and aggregation.
Clopidogrel	Inhibits ADP induced platelet aggregation, by preventing ADP-mediated activation of the glycoprotein IIb/IIIa
Dipyridamole	Preventing adenosine movement into platelets, erythrocytes, and endothelial cells. Results in extracellular increase in local concentrations of adenosine which acts on platelet A ₂ -receptor and increases platelet cyclic adenosine monophosphate in turn preventing platelet aggregation.

Conflict of interest None.**References**

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