Oral Surgery for Patients on Anticoagulant Therapy: Current Thoughts on Patient Management

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Medical advances have led to an increase in life expectancy; however, there has also been a greater prevalence of many chronic illnesses. This has resulted in more patients who present to dental offices on anticoagulant medications. There are a variety of discordant approaches to the treatment of surgical patients on anticoagulant therapy, despite many new studies that purport to provide a guide forward.[1–6] Some have presented new guidelines that attempt a strict algorithmic approach to patient management. Wahl,[7] in a major review of the literature, suggested that most patients undergoing minor oral surgery did not need to stop or decrease their warfarin or antiplatelet drugs, whereas Todd[3] suggested a more individually tailored approach. This article reviews the different aspects of this ever-present challenge and provides our perspective and guidelines to assist with the management of these patients.

ASSESSMENT

A thorough medical and dental history is critical to the identification of patients who may be on some type of hemostasis-altering medication. The dentist must be familiar with the types of diseases and conditions that necessitate the alteration of coagulation mechanisms and the different laboratory tests that are used to assess the coagulation status in these patients.[7–9] Consultation and coordination of care with the patient's

primary care physician and any other appropriate medical specialist is important to the successful management of the surgical intervention.[10–12] This, however, does not supplant the primary role of the dentist being the leader of the team taking care of these patients, once the dentist assumes the role of the patient's surgeon. In addition there should be an awareness of the different laboratory tests and their implications in the management of patients on oral anticoagulation therapy (OAT).

INVESTIGATIONS

The laboratory investigations that are useful in the evaluation and preparation of the patient include a complete blood count (CBC), prothrombin time (PT), activated partial thromboplastin time (aPTT), international normalized ratio (INR), and, in some cases, bleeding time. The CBC involves quantitative evaluation of hemoglobin (g/dL) and platelets (**Table 1**).

The quantitative levels of platelets may be normal, but platelet function maybe reduced because of medications, such as aspirin, or clinical conditions, such as uremia. The vascular phase of hemostasis and platelet function is evaluated with the bleeding time. This is a test where a 1-mm slit is made in the skin and blotted with filter paper and timed to determine when bleeding stops. The normal time should be 7 to 9 minutes. However, this test is now less commonly used in standard workup of patients, and some studies have shown that there is little predictive outcome with respect to postoperative bleeding in patients having minor oral surgery.[13] A prolonged bleeding time offers more information with regard to bleeding risk, although a normal test cannot exclude the possibility.

The coagulation tests that are commonly used in practice to monitor bleeding risk and anticoagulant therapy are prothrombin time (PT), activated partial thromboplastin time (aPTT), and thrombin time (TT).[14,15] aPTT is a measure of the intrinsic pathway of coagulation used in the monitoring of heparin therapy and is usually abnormal in patients with hemophillia.[14] Values are compared with a control and should be within 7 seconds of the control. Values usually range from 25 to 35 seconds. It is usually prolonged if a patient has less than approximately 30% of normal activity. PT measures the integrity of the extrinsic coagulation pathway (**Fig. 1**). This test is used to monitor

Table 1
Complete blood count components

Test	Normal Ranges		Clinical Significance	Clinical Presentation
	Male	**Female**		
Red blood cells	4.7–6.1 million cells/μL	4.2–5.4 million cells/μL	Anemia. If present can represent chronic blood loss, which may mean bleeding diathesis.	Fatigability, pallor, tachycardia
Hematocrit	40.7%–50.3%	36.1%–44.3%	As above	As above
Hemoglobin	13.8–17.2 g/dL	12.1–15.1 g/dL	As above	As above
Platelets	150 to 400 × 10^9/L		Thrombocytopenia. Rule out platelet destruction, eg, HIT	Petechiae, purpura, ecchymosis

Abbreviation: HIT, heparin-induced thrombocytopenia.