Medical Management of Patients Undergoing Dentoalveolar Surgery

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KEYWORDS

- Medical management • Dentoalveolar surgery • Anticoagulation
- Medication-related osteonecrosis

KEY POINTS

- Presurgical evaluation should include risk stratification for prevention of potential problems.
- There are new guidelines regarding management of patients taking oral anticoagulants.
- There is a recent update regarding management of patients with medication-related osteonecrosis of the jaw (MRONJ).

INTRODUCTION

The oral and maxillofacial surgeon (OMS) should have an understanding of common medical comorbidities. This understanding allows for risk stratification and thus prevention of potential problems. Remaining current with updated literature regarding diseases, diagnosis, treatment strategies, and pharmacology ultimately improves patient care. This article provides an update on some of the most common medical diseases for the patient undergoing dentoalveolar surgery.

PRESURGICAL EVALUATION

Preoperative evaluation begins with a complete history and physical examination. First, the patient completes a screening questionnaire, which includes medical and surgical histories, allergies, and a list of current medications. The patient is then classified according to the American Society of Anesthesiologists (ASA) Physical Status Classification System (**Table 1**). The ASA classification system provides an overall impression of a surgical patient who is to undergo a procedure under anesthesia. The patient's risk of having a complication is then stratified according to the Surgical Classification System (**Table 2**).

CARDIOVASCULAR

When meeting a patient, the OMS should begin with a cardiac-focused physical examination. This examination consists of obtaining blood pressure in both arms, assessing for carotid/jugular pulsations/bruits/murmurs, examining the abdomen for distension and hepatosplenomegaly, and assessing the extremities for peripheral edema. One or more of these findings may alert the surgeon that decompensated cardiac disease is present. Next, the surgeon should consider clinical predictors of increased perioperative cardiovascular risk. The American Heart Association and American College of Cardiology determined that a patient who has specific cardiac clinical risks should be further evaluated by a cardiologist for additional cardiac risk stratification (**Table 3**). Next, the OMS should evaluate the patient's functional status using activities of daily living and

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Table 1
American Society of Anesthesiologists patient classification

ASA PS	Preoperative Health Status	Comments and Examples
1	Normal healthy patient	No organic, physiologic, or psychiatric disturbance; healthy with good exercise tolerance
2	Mild systemic disease	No functional limitations; has a well-controlled disease of 1 body system Examples: controlled hypertension without systemic effects, cigarette smoking without COPD, mild obesity, pregnancy
3	Severe systemic disease	Some functional limitation; has a controlled disease of more than 1 body system or 1 major system with no immediate danger of death Examples: controlled CHF, stable angina, poorly controlled hypertension, morbid obesity, chronic renal failure
4	Severe systemic disease that is a constant threat to life	Has at least 1 severe disease that is poorly controlled or at end stage; possible risk of death Examples: unstable angina, symptomatic COPD, symptomatic CHF, hepatorenal failure
5	Moribund, not expected to survive without the operation	Not expected to survive more than 24 h without surgery; imminent risk of death Examples: multiorgan failure, sepsis syndrome with hemodynamic instability, poorly controlled coagulopathy
6	Declared brain dead, organ donor	—

Note: if a surgical procedure is performed emergently, "E" is added to the previously defined ASA classification.
Abbreviations: CHF, congestive heart failure; COPD, chronic obstructive pulmonary disease.
Adapted from ASA Physical Status Classification System. American Society of Anesthesiologists. Available at: https://www.asahq.org/resources/clinical-information/asa-physical-status-classification-system; with permission.

Table 2
Surgical classification system

Category 1	Minimal risk to patients independent of anesthesia Minimally invasive procedures with little or no blood loss Operation done in an office setting
Category 2	Minimal to moderately invasive procedures Blood loss<500 mL Mild risk to patients independent of anesthesia
Category 3	Moderately to significantly invasive procedure Blood loss 500–1000 mL Moderate risk to patients independent of anesthesia
Category 4	Highly invasive procedure Blood loss>1500 mL Major risk to patients independent of anesthesia

From Fattahi T. Perioperative laboratory and diagnostic testing–what is needed and when? Oral Maxillofac Surg Clin North Am 2006;18(1):3, v; with permission.

metabolic equivalents (METs). One MET is the oxygen consumption of a 70-kg, 40-year-old at rest. A patient who is able to perform activities of greater than 4 METs without symptoms is considered to have a good functional capacity (**Table 4**).[1] Finally, the Goldman criteria relies on multivariate analysis and assigns points to certain physical characteristics, helping to assess a patient's cardiac risk (**Table 5**). The points are then tallied and correlated with the cardiac risk.[2] Patients range from having 0 points and thus a 0.9% risk of serious cardiac event or death to greater than 26 points and a 63.6% risk of serious cardiac event or death.[2]

Hypertension

Hypertension is defined as blood pressure higher than 140/90 mm Hg measured on 2 different occasions over a 1- to 2-week span. The Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC) classified patients according to blood pressure (**Table 6**).[3] Accordingly, when a patient's systolic blood pressure is greater than 140 or