How Important Is Dental Clearance for Elective Open Heart Operations?

To the Editor:

The article by Smith and colleagues [1] is very valuable for providing information on the management of perioperative care for patients undergoing cardiac and major vascular operations. We would like to congratulate the authors and the Mayo Clinic (database) for following patients with an indication for preoperative dental surgical intervention.

The authors’ results, based on 10 years of data collection reviewing 205 patients with cardiac conditions who were treated preoperatively with dental surgical procedures, revealed 16 major adverse outcomes (8%). Twelve patients (6%) died within 30 days after dental operations, 6 of whom died before their planned cardiac operation.

In our preadmission clinic for patients undergoing cardiac and major vascular operations, more than 99% of our patients have dental clearance before they see us in our clinic. For the remaining patients, we are able to arrange clearance in the time before their scheduled operation. In general, this requirement applies only to patients who are undergoing elective operations; we clearly forgo such requirements for patients who present with an urgent issue [2–4].

The cardiac surgery and anesthesia community will benefit if the authors can provide (1) the total number of patients undergoing cardiac operations at their institution in the aforementioned 10-year period, (2) what percentage of patients did not have dental clearance, and (3) what percentage of those patients not having dental clearance experienced an infection-related complication. By evaluating these data, we can begin to assess the value of preoperative dental clearance and intervention.

In summary, it is clear that there are no good answers regarding which patients undergoing cardiac operations need dental clearance. Despite the American Heart Association guidelines recommending dental clearance for all patients undergoing valvular operations [5], the American Society of Anesthesiologists and the Society of Thoracic Surgeons do not have clear recommendations. It is our hope that with more discussion there can be a guideline created to determine if dental clearance is necessary for any given patient.

Nishant Gandhi, DO
Department of Anesthesiology
Icahn School of Medicine at Mount Sinai
One Gustave L. Levy Place
Box 1010 KCC 8th Flr
New York, NY 10029
e-mail: george.silvay@mountsinai.org

Reply
To the Editor:

We appreciate the interest and insight provided by Gandhi and Silvay regarding preoperative dental evaluation of cardiac and major vascular surgical populations [1]. The purpose of our article “Morbidity and mortality associated with dental extraction before cardiac operation” [2] was to assess safety of dental extraction operations in this comorbid patient population. The cardiac surgical volume at our institution averages nearly 2,500 cases per year, representing approximately 25,000 patients for the 10-year study period [3]. The surgical practice at our institution is substantially based from referrals outside of the immediate geographic area, which presents challenges in accurately capturing relevant preoperative and late postoperative data. Many patients elect to have preoperative dental clearance with a dentist where they reside. Hence, the number of patients seen and treated by dental providers at our institution would represent a fraction of the total cardiac surgical patient population. Determining the total percentage of patients receiving dental clearance is difficult due to variability in documentation among providers within our medical record, resulting in difficulty performing an accurate electronic query of this.

Unfortunately, the retrospective design of our study as well as the referral-based practice at our institution limits the ability to accurately assess long-term outcomes such as late onset endocarditis in this study population. Patients undergoing cardiovascular surgery at our institution frequently have routine care transitioned back to providers where they reside upon dismissal. While patients with late endocarditis would most often return to Mayo Clinic for definitive care, others may seek treatment locally without documentation within our medical record system, particularly for minor infectious issues, again making accurate assessment of such complications difficult. As discussed in our referenced article, irrefutable studies examining appropriateness of dental extraction operations across the wide spectrum of cardiac surgical patients were not found. The results of our study do not allow a definitive recommendation for or against dental extraction prior to cardiac surgery. We agree with Gandhi and colleagues that future research including large randomized prospective studies or registries comprising sufficient follow-up to assess complications such as late onset endocarditis will be necessary to accurately answer this important question.

Again, we thank Gandhi and Silvay for their comments.

Mark M. Smith, MD
David W. Barbara, MD
William J. Mauermann, MD
Department of Anesthesiology
Mayo Clinic College of Medicine
200 First St SW
Rochester, MN 55905
e-mail: smith.mark2@mayo.edu

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