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Discussion

Adverse Events With Outpatient Anesthesia in Massachusetts

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I commend the authors for their third consecutive study in which a 100% response rate was achieved. This retrospective survey of the members of the Massachusetts Society of Oral and Maxillofacial Surgeons assessed morbidity and mortality data for 5 years.

The mortality rate for the 5-year period from 1995 through 1999, for patients undergoing conscious sedation or general anesthesia in Massachusetts was 1:853,050. This mortality rate compared favorably with 7 retrospective studies published since 1980, in which the mortality rate for dental anesthesia collectively was 1:835,000. There were 4 studies published from 1966 through 1979 that, when added together, gave a mortality rate of 1:335,000. The authors of this study conclude the improvement in mortality rates could be related to an increase in the use of monitoring modalities. In the authors' 1992 article, the pulse oximeter in 1988 was used by 71% of the respondents. The electrocardioscope (ECS) was used by 85% of the respondents. The percentage use of the noninvasive blood pressure (NIBP) monitor was not included. In the 1999 study the use of the pulse oximeter had increased to a 93% rate. The ECS use was 76%, and blood pressure was monitored by 93% of the respondents. Compared with the 1999 results, the rates reported by the authors in this new study show the rates of use of these monitors to be unchanged.

The American Association of Oral and Maxillofacial Surgeons (AAOMS) in both the *Office Anesthesia Evaluation Manual*¹ and *Parameters and Pathways*² recommend continual use of pulse oximetry and regular interval blood pressure monitoring for patients undergoing any form of sedation or general anesthesia. When deep sedation/general anesthesia is used, the ECS should also be included. A majority of states have patterned their office anesthesia

regulations after the AAOMS *Office Anesthesia Evaluation Manual*, and so the use of these 3 monitoring modalities is outlined in their rules and regulations.

As previously mentioned, one reason the mortality rates for dental anesthesia have improved since 1980 is the development and use of the pulse oximeter as well and the use of the ECS and NIBP monitor. Because the use of these monitoring devices is recommended as a way to safely provide anesthesia, I wonder why only 92% to 93% of the oral and maxillofacial surgeons in this study use the pulse oximeter and NIBP monitor and not a higher percentage.

The authors describe many of the untoward events that have occurred and the relative percentage of the problems. In 1999, 13 patients were transferred from the oral and maxillofacial office or clinic to the emergency department or hospital for various problems. No major common threads were identified within this group of patients.

The authors point out several shortcomings with retrospective studies and surveys. Among the problems mentioned were defects in the data recall. The AAOMS is currently collecting data for a prospective outcomes assessment of anesthesia in the oral and maxillofacial offices. When this study is released, it will be interesting to compare these data with other published studies.

I urge the authors and the Massachusetts Society of Oral and Maxillofacial Surgeons to continue their periodic review of office-based anesthesia and report their findings.

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