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Exposure to sevoflurane in otorhino-laryngologic operations

To the Editor:

Exposure to trace anesthetic gases is not associated with considerable risks of adverse health effects. Nevertheless, efforts must be undertaken to maintain the high level of safety currently fostered by occupational exposure guidelines.¹ Further, online control of ambient air exchange at the operating room (OR) may help in supervising air quality and lead to cost reduction.² Ear-nose-throat (ENT) OR are especially prone to higher levels of contamination. However, to this date, only nitrous oxide, desflurane and isoflurane exposure in ENT OR have been measured³ even though the new inhalation anesthetic sevoflurane enjoys growing use in these OR.

A Proton-Transfer-Reaction Mass-Spectrometer system⁴ was used for online monitoring of volatile organic compounds, especially anesthetic gases in our ENT OR. The mean exposure to sevoflurane was 103.6 parts per billion (time-weighted average) over the working period. Sevoflurane concentrations were patient turnover-dependent during the 48-hr investigational period and shortlasting peaks were registered when sevoflurane was used during mask ventilation before intubation of the trachea (Figure).

Since modern OR have a high ventilation capacity, the 24-hr occupational burden by anesthetic gases in

FIGURE

the OR is, altogether, relatively low. Monitoring and control of ambient air quality by automatic systems would be useful to optimize ventilation in the work place environment. Moreover, energy costs of ventilation systems could be reduced by coupling ventilation capacity to the effective exposure.

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