Harry W. Daniell

Does remifentanyl shorten ventilator maintenance, midazolam prolong it, or both alter its duration?

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Dear Sir: Rozendaal et al. [1] should not have concluded that the shortened ventilator weaning time associated with remifentanyl use was because of the characteristics of this medication, without considering at least one other possible cause. Cortisol deficiency is present in 30–50% of patients receiving mechanical ventilation in some series [2, 3], and in them has been associated with more than a doubling of weaning time [2] and striking increases in mortality [3]. Acute and prolonged administration of benzodiazepines strongly inhibits cortisol production [4], with a single injection of midazolam at a dose of 0.07 mg/kg sometimes prominently inhibiting cortisol formation for more than a week [5]. Multiple studies suggest that benzodiazepine-induced lowering of cortisol levels may be

enhanced by concurrent use of opioids and propofol, but cortisol levels during the use of remifentanyl and propofol have not been investigated. In order to examine the possible effect of medications in each of their study arms on the duration of required mechanical ventilation, any cortisol levels measured in their patients, any administration of corticosteroid therapy to them, relationships between these values and the duration of mechanical ventilation, and withdrawal of patients from the study for any reason, including death, would help to clarify any contributions by remifentanyl to the duration of ventilator support and other aspects of patient care.

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H. W. Daniell (✉)
Department of Family Practice,
University of California Davis Medical
School, 2626 Edith Avenue, Suite A,
Redding, CA 96001, USA
e-mail: hwdaniell@aol.com