Use of Fentanyl and Safety of Endobronchial Ultrasound

To the Editor:

A recent issue of CHEST (April 2013) highlights an important issue pertaining to the safety of endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA). In the issue, Çoruh et al report on an adverse effect of fentanyl used for bronchoscopy and EBUS-TBNA. We have calculated the mean dose in our institution administered for conscious sedation for EBUS-TBNA to be 3.4 mg midazolam and 62.5 mg fentanyl (or 0.9 μg/kg) with good patient tolerability. This compares to one-fourth of the dose of fentanyl used in the reported case, and perhaps the dose difference would account for the observed adverse reaction. There are likely to be organizational factors that also influence the mean dosage of conscious sedatives used. For example, in many institutions, an anesthetist may not be present in the endoscopy suite, and, therefore, lower levels of sedation may be used without the use of a laryngeal mask or endotracheal tube. It is also customary in such institutions using milder conscious sedation to avoid giving sedative reversal agents if possible. Indeed, in some cases of EBUS-TBNA it is possible to achieve reasonable sedation and patient tolerability with only 1 mg midazolam and no fentanyl or other agents, which is of particular value in patients with poor lung function in whom an esophageal approach with endoscopic ultrasound bronchoscope-guided fine needle aspiration is not possible as an alternative.

In summary, it is important to be aware of potential adverse effects of fentanyl and other agents used in EBUS-TBNA conscious sedation. In our experience, such events are best avoided by minimizing the dose of the drug used without sacrificing patient tolerability of the procedure.

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REFERENCES


Response

To the Editor:

We thank Dr Medford for his comments on our report describing chest wall rigidity following administration of fentanyl during bronchoscopy. At Harborview Medical Center, the large majority of fiber-optic bronchoscopy procedures, including endobronchial ultrasound-guided transbronchial needle aspiration, are performed under moderate sedation. The sedative and analgesic doses used are highly variable, depending on patient age, comorbidities (eg, hepatic, renal, cardiac, or pulmonary disease), and patient tolerance of the procedure. We agree that the dose of fentanyl and the pace of administration contributed to causing this unusual reaction. In addition to minimizing doses of sedatives and analgesics when possible, this case highlights the importance of early identification and treatment of adverse effects.

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