Effect of swallowing maneuver on fentanyl-induced coughing

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To the Editor:

We thank Dr. Ho et al. [1] for the comments regarding our recent manuscript [2]. Although μ -opioid generally possesses antitussive potential, fentanyl often induces cough (fentanyl-induced cough, FIC) during the induction of anesthesia. However, the mechanism is still unclear. We speculated [2] that the afferent vagal nerve fiber was activated by swallowing, which might disturb FIC. Jun et al. [3] reported that during swallowing laryngeal adductor muscle activity increases to close the glottis and upper esophageal sphincter activity leads to prevent aspiration. In contrast, the laryngeal adductor muscle activity decreases during cough, but only increases at transition between inspiration and expiration, and the upper esophageal sphincter increases to prevent loss of intrathoracic pressure. Therefore, because a swallowing action could reduce intrathoracic pressure to minimize cough, it might suppress the FIC [3]. Canning et al. [4] explained that comparing these physiological properties with receptors indicates that the afferent neurons in cough might be distinct from stretch mechanoreceptors innervating the airways and lungs.

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