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LETTER TO THE EDITOR

Was isoflurane the only cause of IL-1β upregulation?

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To the Editor:

In the article by Whitaker et al. [1], serum interleukin-1β (IL-1β) levels significantly increased after general anesthesia in children undergoing magnetic resonance imaging. The authors concluded that brief exposure to isoflurane without surgical stress induced a systemic inflammatory response. However, the results should be interpreted carefully because this study did not include a control group.

The authors should consider the possibility that other stimuli such as intravenous catheter placement or laryngeal mask airway insertion may influence the production of inflammatory cytokines. A previous study demonstrated that a sterile needle insertion with a minor tissue injury increased the production of local proinflammatory cytokines, including IL-1β [2]. The types of airway devices used during anesthesia are known to influence systemic stress responses such as the production of proinflammatory cytokines, stress hormones, or markers for oxidative stress [3]. Even a minor stimulus should not be ignored, because the production of proinflammatory cytokines increases markedly upon its activation.

Further study is needed to confirm the causal relationship between systemic inflammatory response and general anesthesia without surgical stress.

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