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LETTER TO THE EDITOR

# Is propofol more neurotoxic in the developing brain?

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To the Editor:

The recent study comparing the neurotoxic properties of propofol with thiopental in neonatal mice was of great interest [1]. However, we identified several issues that might flaw the conclusion.

First, the authors performed $SpO_2$ and CBF monitoring instead of blood gas analysis to exclude the possibility that the neuroapoptosis is caused by hypoxia/hypercarbia. However, the synergistic action between intravenous anesthetics and sevoflurane might depress circulation and respiration, leading to hypoxia or hypercarbia that cannot be detected by $SpO_2$ and CBF monitoring.

In addition, it is well known that developmental anesthetic neurotoxicity depends on the degree of anesthetic exposure, which includes both accumulative exposure time and the depth of anesthesia [2]. It is important to determine equipotent anesthetic doses before comparing the detrimental effects of potentially neurotoxic compounds [3]. In this study, the neuroapoptotic properties of the two intravenous anesthetics with different potencies were compared directly. Thiopental and propofol combined with sevoflurane might induce different depths of anesthesia. Therefore we want to raise a concern that the different neuroapoptosis should be attributed to the greater neurotoxic effect of propofol or incomparable doses of the two agents.

## References

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