Anesthesia and Neurodevelopment: Do Parents Want the Topic of Anesthetic Neurotoxicity to be Discussed During Anesthesia Consent?

Children's Hospital of Philadelphia

Scott Hayes, MD¹; Christopher Ward, MD¹

1. The Children's Hospital of Philadelphia, Dept of Anesthesiology, Philadelphia, PA, USA



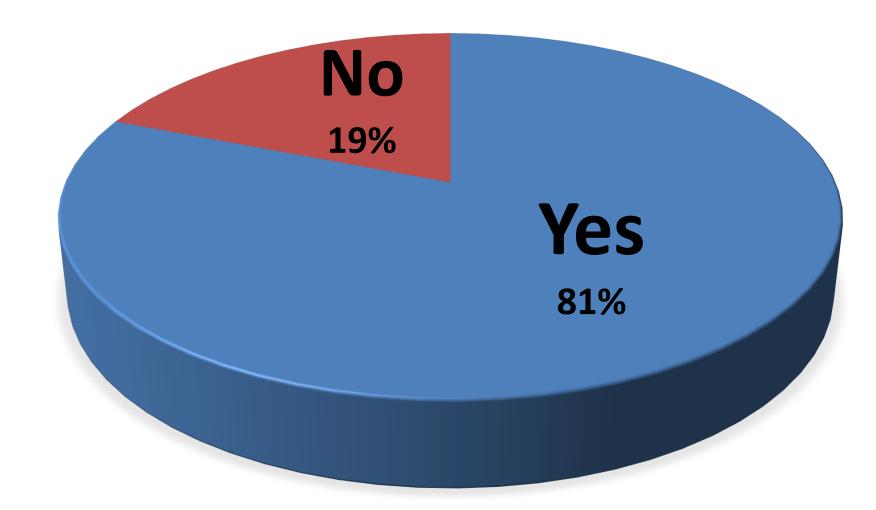
Background

- Animal studies suggest anesthetics can cause neurodevelopmental and behavioral deficits.
- GAS and PANDA Studies reassuring single anesthetic exposure with no obvious neurodevelopmental consequence.
- Effect of prolonged or repeat anesthetic exposures in children is unknown.
- FDA issued a statement that prolonged or repeated use of anesthetics in children younger than three years may affect brain development.
- Many anesthesiologists do not discuss the possible effect of anesthetics on neurodevelopment.

Methods

- Parents were surveyed at Family Advisory Council (FAC) meeting, an organization of caregivers with children at our hospital.
- FAC Members were asked: "As a parent, would you want CHOP to proactively mention the idea of anesthetic neurotoxicity (addressed in the FDA Safety Announcement) during the anesthesia consent process, or should we (anesthesia providers) continue to only address this issue if asked?"
- Participants responded yes or no, and allowed to provide written comments.

PARENT OPINION: SHOULD ANESTHESIA PROVIDERS PROACTIVELY DISCUSS ANESTHETIC NEUROTOXICITY?



"My vote is full disclosure and being proactive upfront, especially since this is something the FDA is highlighting"

"This information has not been readily shared with us, and I do think it needs to be- without needing to be asked."

"If it's listed in the written consent as a risk, then I would only discuss if asked. If it's not called out in the written consent, I would consider doing that given the aggressive wording of the FDA guidance."

"I think it should be proactive, otherwise it could be perceived that they are hiding something and too many still do not trust the medical community"

"I would rather be told only if I asked...there are risks at any age going under anesthesia. However, the benefits usually outweigh the risk."

"Since we advocate for all families, we should take into consideration families who may not know to ask about the process of anesthesia."

Results

- 37 members of the Family Advisory Council responded to the survey
- 30 respondents (81%) felt that anesthesia providers should routinely discuss the FDA safety announcement about anesthetics and neurodevelopment during the consent process.

Conclusion

- Most parents surveyed felt that effect of anesthetics on neurodevelopment should be discussed during the consent process.
- Seven respondents who preferred not to discuss the FDA statement, but two commented they would prefer written materials instead.
- Our results suggest that many families would prefer proactive discussion about anesthetic neurotoxicity as part of the consent process.

References

Davidson AJ, et al. 2016. Neurodevelopmental outcome at 2 years of age after general anaesthesia and awake-regional anaesthesia in infancy (GAS): an international multicentre, randomized controlled trial. Lancet 387(10015), 239-250.

Jevtovic-Todorovic, et al. 2003. Early exposure to common anesthetic agents causes widespread neurodegeneration in the developing rat brain and persistent learning deficits. J Neurosci 23(3), 876-882.

Sun, L., et al. 2016. Association Between a Single General Anesthesia Exposure Before Age 36 Months and Neurocognitive Outcomes in Later Childhood. JAMA 315(21), 2312-2320.