Electrographic seizure after neonatal and infant cardiac surgery

To the Editor:

We read with interest the article by Gaynor and associates, titled “Relationship of Postoperative Electrographic Seizure to Neurodevelopmental Outcome at 1 Year of Age After Neonatal and Infant Cardiac Surgery.” We appreciate the effort and hard work of the authors on this complex neurophysiologic phenomenon.

In this study postoperative electroencephalographic (EEG) seizures have been identified in a small number of patients (15/144, 13%), with absolutely no seizure activity reported in patients with transposition of the great arteries and ventricular septal defect. The latter are considered among the high-risk groups.2,3 This observation may be quite startling or may be purely coincidental.

The authors did not mention the preoperative seizure history or duration of seizure activity4 (which can significantly contribute to seizure-related neuronal death), and they did not discuss whether the EEG examiners were blinded to the fact that the child had a seizure in the postoperative period.

Gaynor and associates rightly mentioned that antiepileptic medication given to all the patients was not standardized and there was no control group, so it is not possible to determine conclusively whether treatment affected the neurodevelopmental outcome.

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References

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Reply to the Editor:

We appreciate the comments by Hashmi, Hanif, and O’Reilly concerning our recent article, titled “The Relationship of Postoperative Electrographic Seizures to Neurodevelopmental Outcome at 1 Year of Age After Neonatal and Infant Cardiac Surgery.”1,2 They raised several questions concerning including (1) preoperative seizure history; (2) the lack of seizure activity in patients with transposition of the great arteries (TGA) with a ventricular septal defect (VSD), previously considered a high-risk group for postoperative seizures; (3) duration of seizure activity; and (4) whether or not the electroencephalographic (EEG) examiners were blinded to the fact that the child had a seizure in the postoperative period.

The authors did not mention the preoperative seizure history or duration of seizure activity4 (which can significantly contribute to seizure-related neuronal death), and they did not discuss whether the EEG examiners were blinded to the fact that the child had a seizure in the postoperative period.

Gaynor and associates rightly mentioned that antiepileptic medication given to all the patients was not standardized and there was no control group, so it is not possible to determine conclusively whether treatment affected the neurodevelopmental outcome.

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References