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## 50 Years Ago in *THE JOURNAL OF PEDIATRICS*

### Neonatal Seizures: 50 Years of Progress

Freeman JM. Neonatal seizures—diagnosis and management. *J Pediatr* 1970;77:701-8.

One-half century ago, John Freeman presented in *The Journal* a review of neonatal seizures, listing the major causes, presentations, diagnostic approaches, and treatments of the different etiologies. A high initial mortality of about 40% after neonatal seizures in 2 unselected and 25% in 1 selected series was found. Intracranial hemorrhage accounted for approximately 50% of deaths, both in children born at term and preterm at the time, and accounted for 60%-80% of postmortem identified causes of seizure-related deaths. In a series of deaths excluding preterm infants, 20% were due to birth trauma and anoxia. In the current literature, mortality has decreased to approximately 20%.<sup>1</sup> The list of etiologies for neonatal seizures still encompasses the same causes as it did 50 years ago. Hypoxic-ischemic encephalopathy is now the most common reason in the term, and intraventricular hemorrhage in the preterm neonate. However, routine cranial ultrasound examination was not introduced in the neonatal intensive care unit until around 1980, and the latter would therefore likely have been diagnosed post mortem 50 years ago. There is a greater chance of both identifying and treating infants with hypoxic-ischemic encephalopathy today. There is a much better understanding of the metabolic causes of seizures today, and the field of genetics has identified several genetic epilepsy syndromes accounting for approximately 15% of all seizures in the neonatal population, with specific presentations and treatment options.<sup>2</sup> The higher rate of diagnosed seizures today is, to a large extent, due to the introduction of the amplitude integrated electroencephalogram, and the more widespread use of a full electroencephalogram with simultaneous video recordings. Reading Freeman's review reminds us of the immense progress that has been made in the field of neonatal seizures in the last 50 years, and also the fact that we still have neither the optimal diagnostic tools nor the optimal treatment options for this group of patients.

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