PEDIATRIC EPILEPSY RESEARCH CONSORTIUM

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Scientific Publication from the Pediatric Epilepsy Research Consortium (PERC)

New Research Published in the Scientific Journal "*Pediatric Neurology*" - Pediatric palliative epilepsy surgery: a report from the Pediatric Epilepsy Research Consortium (PERC) Surgery Database

https://www.pedneur.com/article/S0887-8994(24)00157-7/fulltext

Niwot, Colorado- Members of the Surgery Special Interest Group of the Pediatric Epilepsy Research Consortium (www.perc-epilepsy.org) evaluated the characteristics of children in the US offered palliative pediatric epilepsy surgery using a multicenter database to compare patient selection, evaluation, surgical treatment and outcomes of patients ultimately undergoing palliative epilepsy surgery.

Reducing seizures via epilepsy surgery, even without achieving seizure freedom, can help maximize neurodevelopmental potential and quality of life, as seizures can lead to cognitive decline, impaired social outcomes, and higher risk of sudden unexplained death in epilepsy (SUDEP). This highlights the need to redefine surgical success as it relates to palliative procedures.

A total of 640 patients met inclusion criteria of which 360 (56%) underwent procedures intended to be definitive and 280 (44%) palliative. At six to <12 months follow-up, the majority of patients in both palliative groups, 72% (95% CI: 60%-84%) in the traditionally palliative and 66% (95% CI: 51%, 80%) in the traditionally definitive, had 50% reduction or better in seizure burden. Seizure free outcomes were significantly higher among those with traditional definitive resective/ablative surgery, 41% (95% CI: 26%, 57%), compared to traditional palliative surgeries, 9% (95% CI: 2%, 17%) (p=0.0003). Rates of seizure freedom continued to be relatively high in the traditionally definitive group, 49% (95% CI: 33%, 65%) at 12 to <24 months, and 46% (95% CI: 28%, 65%) at 24 months or greater.

Our results show a meaningful seizure reduction can be achieved with palliative procedures. The expansion of palliative surgical options and access to these options, even for patients traditionally not considered surgically eligible in the past, and the reported success of palliative epilepsy surgery presented here and in other reports, highlights the need for more rapid referral to surgical centers regardless of whether or not the goal of seizure freedom is thought to be possible. One must also question the utility of making a distinction between "palliative" and "definitive" surgical options as the presentation of these procedure types as a dichotomy seems to delay referral. This language also fails to capture the significant benefit "palliative" epilepsy surgery offers.

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About the Pediatric Epilepsy Research Consortium

The Pediatric Epilepsy Research Consortium (PERC) is a national collaboration of more than 77 pediatric epilepsy programs and over 350 pediatric epileptologists, pediatric neurosurgeons, pediatric neuropsychologists, and other pediatric epilepsy researchers. Founded in 2010 by physicians and scientists determined to find better treatments for their patients, PERC has grown to become the leader in pediatric epilepsy research by providing a network and infrastructure to facilitate collegial, collaborative, practice-changing research. Through fourteen special interest groups, PERC works to improve the care of every child with epilepsy. We are particularly committed to fostering development of future pediatric epileptologists by providing opportunities for junior investigators to join ongoing efforts and develop research skills.

Our vision is a world in which all children with epilepsy benefit from the most recent advances in scientific knowledge and technology, regardless of geographic or economic resources. Through large multicenter registries, as well as multicenter retrospective and prospective analyses, we hope to identify preferred diagnostic evaluations and treatments for specific epilepsy syndromes, etiologies, and comorbidities.

Learn more at www.perc-epilepsy.org

Epilepsy is the most frequent potentially fatal neurologic condition of childhood, affecting nearly half a million U.S. youth (<18 years of age) by 2015 estimates.