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Children With a Head Injury due to Abuse More Likely to Die, Have Long-Term Consequences, Study Shows

- Children whose head trauma is a result of abuse rather than an accident are more likely to die or have long-term issues.
- Functional impairment improved over time in children whose head injury was accidental but not in those who had been abused.

SAN FRANCISCO – Children who sustain head trauma as a result of abuse are more likely to die or have long-lasting problems than those whose traumatic brain injury (TBI) is a result of an accident, suggests research being presented at the [Society of Critical Care Medicine's \(SCCM\) 2023 Critical Care Congress](#).

“Child abuse is much more common than we realize, and we haven’t done a great job of preventing it or improving outcomes in children who are injured,” said Caitlin McNamara, MD, lead author of the study and pediatric intensive care unit (PICU) fellow at Children’s Hospital of Pittsburgh of University of Pittsburgh Medical Center. “Children with head injuries are often treated the same, no matter the cause; this research suggests we should consider them separately to help victims of abuse get the help they need.”

The study included 370 children, 170 of whom sustained abusive head trauma from such causes as shaken baby syndrome or being hit, and 200 of whom sustained a TBI from a motor vehicle accident, a fall, or a different accidental cause between 2014 and 2019. Overall, 8% of children who had abusive head trauma died versus 1.5% of those whose TBI was accidental.

On hospital discharge, 16% of children with abusive head trauma had functional impairment such as seizures and sensory issues—reduced hearing, vision, and responsiveness to touch and communication—compared to 7% of children who sustained an accidental TBI. While functional impairment improved over time in children with accidental TBI (5% at one year and 2% at five years), it did not improve at all in the children who sustained abusive head trauma (16% at one year and five years).

The difference in outcomes may result from several factors, Dr. McNamara said. TBIs typically are one-time events in which a child is brought to the hospital immediately to be assessed and treated and receives needed physical, occupational, and speech therapy. Children with abusive head trauma often sustain repeated injuries via different mechanisms, and it may be a long time before they are evaluated by a healthcare professional.

“Often these children have huge social disadvantages, putting them at risk for worse outcomes, so close assessment over time and multidisciplinary rehabilitation and support for the family is critical,” Dr. McNamara said. Children are more likely to be abused when they display peak crying, at about age two months, and when they are toilet training, at about age two years, she noted. The incidence of child abuse tends to increase during challenging times, such as during the COVID-19 pandemic and times of economic stress.

Unfortunately, prevention measures have been unsuccessful. Therefore, it is important that healthcare professionals pick up on subtle clues that a child is being abused and ensure the provision of necessary rehabilitation services, she said. “Once again, this study demonstrates that the timing, duration, severity, and chronicity of trauma are important factors to take into account: one size does not fit all,” said Vinay M. Nadkarni, MD, MS, FCCM, 2023 SCCM president.

THE SOCIETY OF CRITICAL CARE MEDICINE

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