

Epileptic Seizures in Acute Leukemia in Children: A Clinical Analysis

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This study aimed to investigate epileptic seizures occurring in children undergoing polychemotherapy for acute leukemia. From January to October 2023, we conducted a thorough examination of pediatric patients diagnosed with acute leukemia who experienced epileptic seizures during their treatment regimen. A total of 84 patients were included in the study, and their clinical data were meticulously analyzed. The incidence, characteristics, associated risk factors, and outcomes of epileptic seizures in this specific population were assessed. Our findings shed light on the prevalence of epileptic seizures in children with acute leukemia undergoing polychemotherapy, highlighting the importance of vigilance and prompt management of neurological complications during cancer treatment in pediatric patients. This study underscores the necessity for further research to optimize seizure prevention and management strategies in this vulnerable population.

OBJECTIVES

- To determine the incidence and characteristics of epileptic seizures in children diagnosed with acute leukemia undergoing polychemotherapy.
- To identify potential risk factors associated with the development of epileptic seizures in this patient population.
- To analyze the clinical outcomes of children with acute leukemia who experience epileptic seizures during their treatment course.

METHODS

Between January and October 2023, our study focused on a meticulous examination of pediatric patients who had been diagnosed with "acute leukemia" and subsequently experienced epileptic seizures at any point during their therapeutic journey. This period allowed us to comprehensively track and analyze the onset, progression, and characteristics of seizures in the context of their ongoing treatment for leukemia, providing valuable insights into the intricate relationship between their primary diagnosis and neurological complications.

RESULTS

A total of 84 children diagnosed with "Acute Leukemia" were examined. Among them, 26 (30.9%) experienced epileptic seizures during the therapy. Out of 26 children, 8 (30.7%) were in the high-risk group, while the remaining children were in the low-risk group. Epileptic seizures in these children were observed at the stage of induction. In 5 (19.2%) children, epileptic seizures were observed at the onset of the disease, unrelated to chemotherapy. 7 (26.9%) children had the aforementioned complaints during the remission induction stage, and seizures were observed in 4 (15.3%) children during the consolidation phase 1. The semiology of the seizures was diverse: complex focal epileptic seizures were most commonly observed in 14 (53.8%) children with acute leukemia, generalized seizures were noted in 30.7% of cases - in 8 children, simple focal seizures in 1 child, and complex focal seizures evolving into bilateral tonic-clonic seizures were registered in 3 (11.5%) children. Half of the children had structurally related epileptic seizures, observed as part of PRES syndrome and methotrexate leukoencephalopathy.

CONCLUSIONS

Epileptic seizures stand as a prevalent neurological complication among children grappling with acute leukemia, characterized by a diverse range of etiologies and clinical manifestations.

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