

TITLE: NEUROLOGIC COMPLICATIONS IN CHILDREN WITH ACUTE LYMPHOBLASTIC LEUKEMIA: EXPERIENCE FROM A TERTIARY CARE HOSPITAL IN A RESOURCE LIMITED COUNTRY

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Objective

To describe the frequency, clinical profile and outcome of neurological complications in children with acute lymphoblastic leukemia, admitted in a tertiary care hospital.

Introduction

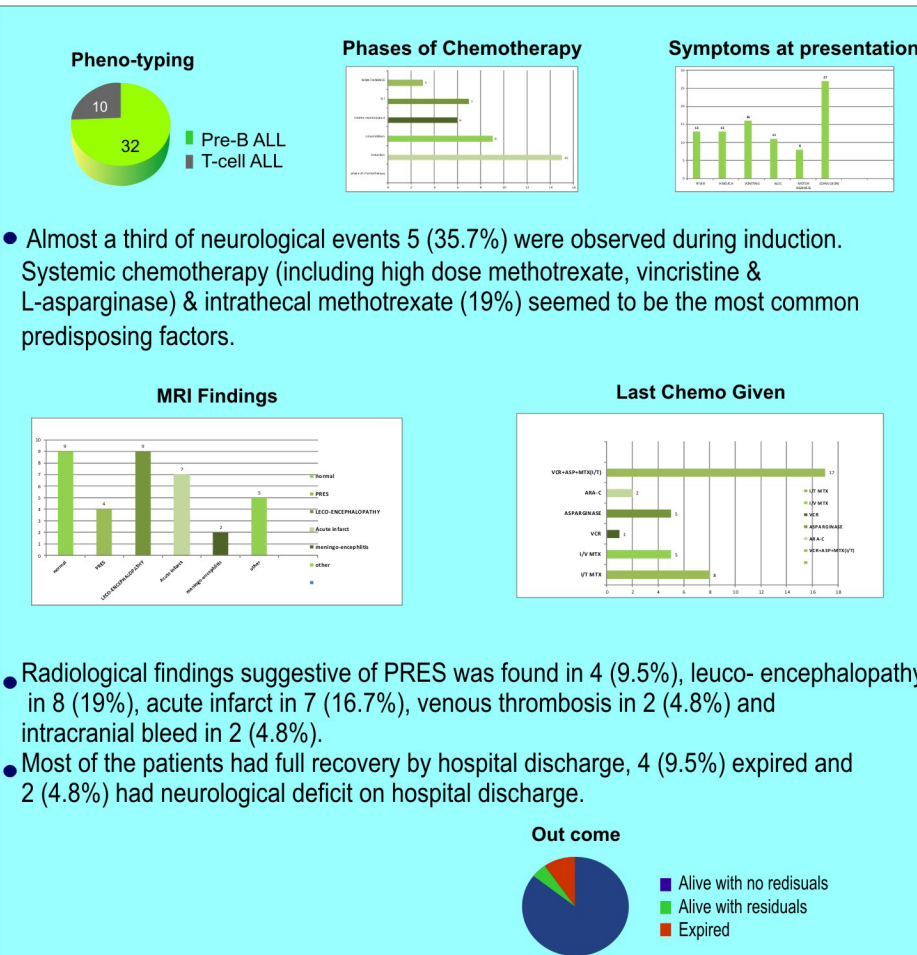
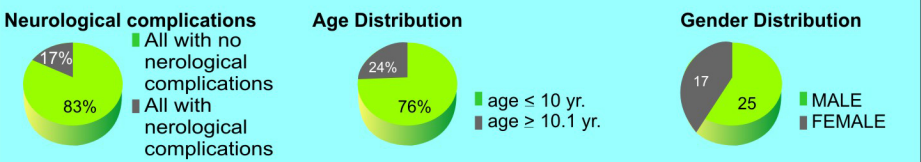
Acute leukemia accounts for 32% of all malignancies in children. The neurological disorders are not uncommon in children with acute leukemia. It can be a presenting symptom or later on develop during management of disease. It may cause permanent disability in children with prolonged leukemia free survival. The incidence of neurotoxicity in children with leukemia has been reported in approximately 10-20% of children. In the acute term reported neurologic complications include peripheral neuropathies, cerebrovascular accidents, convulsions, aseptic meningitis and metabolic/toxic encephalopathies. These disorders can be recognized early and if treated promptly can save children from complications.

Material & Method

This was a descriptive retrospective study conducted at the Aga Khan University, Karachi on all children below 16 years of age with Acute Lymphoblastic Leukemia (ALL) and acute neurological complications admitted between October 2009 to December 2014. Data was analyzed by using SPSS version 19.

Results

During a 5 year period, 242 children with ALL were diagnosed and treated on BFM based COG protocol.



Almost a third of neurological events 5 (35.7%) were observed during induction. Systemic chemotherapy (including high dose methotrexate, vincristine & L-asparaginase) & intrathecal methotrexate (19%) seemed to be the most common predisposing factors.

Radiological findings suggestive of PRES was found in 4 (9.5%), leuco- encephalopathy in 8 (19%), acute infarct in 7 (16.7%), venous thrombosis in 2 (4.8%) and intracranial bleed in 2 (4.8%). Most of the patients had full recovery by hospital discharge, 4 (9.5%) expired and 2 (4.8%) had neurological deficit on hospital discharge.

Conclusion

Although most patients had full recovery, neurological complications are frequent events during ALL therapy, and require early detection and prompt treatment to limit permanent damage