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## Complication of MRC UKALL X protocol in pediatric acute lymphoblastic leukemia: A retrospective analysis

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**Background & Aim:** Leukemia has the highest incidence in pediatric malignancy and ALL is the most common. In the recent years, treatment has been remarkably improved and now most of the patients are cured successfully. UKALL-X is a protocol with 1 or 2 consolidation therapy phase regarding to the patient's conditions. The aim of this study was to investigate the response to therapeutic procedure and complications related to consolidation therapy phase in this protocol.

**Material & Methods:** In this retrospective cross sectional study, ALL patients from 2008 to 2015 in Bahrami Pediatric Hospital, Iran were enrolled. Patients' demographic information and clinical characteristics, including age, gender, ALL morphology subtype, WBC and neutrophil counts, Hb level, length of hospitalization and outcome were collected.

**Results:** 67 ALL patients who were under UKALL-X protocol were enrolled for analyzing. 28 (41.7%) and 19 (28.3%) cases were between 0-5 and 10-15 years old, respectively. 44 patients (65.6%) were boys and 23 cases (34.4%) were girls. 7 patients (10.7%) relapsed in the 3 years of diagnosis. 50 subjects (74.6%) had an overall survival of 3 years. 47% of mortalities occurred in 0-5 years old patients. 45 (67.2%) and 17 (51.5%) of patients were L1 and L2, respectively. Among 33 cases received the first phase of consolidation, 17 patients (51.5%) had experienced neutropenia. Neutropenia happened in 19 patients among 35 cases (54.2%) who received the second line therapy. There was no report of mortality caused by neutropenia subsequent to consolidation. There was no significant association between age and mortality and neither age and incidence of neutropenia subsequent consolidation therapy.

**Conclusion:** Considering 3 year survival, no mortality report related to consolidation-therapy-induced neutropenia and low percentage of relapse in this study can suggest that this protocol is an appropriate treatment strategy in countries such as Iran.

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