PP 04_Case Report

IMMUNOPHENOTYPIC CHARACTERISTICS AND TREATMENT OUTCOME OF T-ACUTE LYMPHOBLASTIC LEUKEMIA IN ADULTS; AN IRAQI CENTER EXPERIENCE

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Objective: About 25% of Acute Lymphoblastic Leukemia (ALL) express T-cell antigens which being considered a predictive of high-risk group. This study was conducted to find out the immunophenotypic characteristics of T-cell Acute Lymphoblastic Leukemia (T-ALL) in young and adult Iraqi patients. Also, to determine the association of treatment outcome with the immunophenotype and the treatment regimen used. **Methodology:** The study was conducted using the laboratory data of the Central Flowcytometry Department at Baghdad Medical City between 7 January 2019 and 3 May 2020. The immunophenotypic records revealed 35 young and adult patients (age of 14-year or older) with T-ALL. The patients were classified into early (immature) T-cell Precursor (ETP) and Mature T-cell Precursor (MTP). Correlation of the patients' outcome according to age, gender, and immunophenotypic expressions with the type of therapy used were evaluated. **Results:** Thirty-five patients were diagnosed with T-ALL with a mean age of 28.1±12.3, and 74.3% were males. The stratification of patients according to the stage of leukemic T-cells maturation showed more frequent mature phenotype (cortical and medullary) than the immature (68.6% vs. 31.4%). The MTP markers expression showed a statistically significant higher rate in patients aged < 20-year ($p = 0.03$) or male ($p = 0.01$). Most patients received hyperCVAD 26 (74.3%) protocol, and UKALL was administered in the remaining (25.7%). Remission was achieved in 82.9%, while 11.4% failed to respond and 8.7% died during induction. Remission was maintained in 54.3% with 5-months of median follow-up, and relapse was found in 11.4%. The Overall Survival (OAS) at one year was 55%, with a mean survival of 13.8+1.7 months without an association with the type of therapy, subtype of T-cell, and myeloid antigenic expression. Despite a higher remission rate and lower death rate among UKALL group compared to HyperCVAD, the difference is non-significant ($p = 0.81$). The better response of MTP compared to ETP lineage was the only significant value with the outcome ($p = 0.045$). **Conclusion:** T-ALL is more commonly encountered in males. Remission was maintained in more than half of the patients with a better response and survival of the patients with MTP than those with the ETP subtype. The outcome was not affected by age, gender, or the treatment protocol.

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PP 05_ Case report

DYNAMIC BALANCE EVALUATION IN CHILDREN WITH ACUTE LYMPHOBLASTIC LEUKEMIA UNDERGOING CONSOLIDATION THERAPY

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Objective: This study aims to clinically assess the dynamic balance performance in children with Acute Lymphoblastic Leukemia (ALL) undergoing consolidation therapy by comparing their performance with normative data, thereby identifying potential treatment-related impairments in this population. **Methodology:** This descriptive study was conducted at Dokuz Eylül University, Faculty of Physiotherapy and Rehabilitation in Turkey. Fifteen children with ALL were enrolled and divided into the following age groups: 6–7 years (n = 8), 8–9 years (n = 4), 10–11 years (n = 1), 12–13 years (n = 1), and 14–15 years (n = 1). All participants underwent the Limit of Stability (LOS) test using a Balance Master NeuroCom system, which quantifies key parameters including Reaction Time (RT), Movement Velocity (MVL), Directional Control (DCL), Maximum Excursion (MXE), and Endpoint Excursion (EPE). Given the minimal sample sizes in the 10–11, 12–13, and 14–15 years groups, the primary analysis focused on the 6–7 and 8–9 years groups. Normative data for each parameter were extracted from previous studies using the Balance Master LOS test in healthy children. **Results:** In the 6–7 years group, the average RT was 1.05 seconds (norm: 0.79s), and MVL was 4.31°/s (norm: 4.64°/s). In contrast, DCL was 62.25% (norm: 52.50%), MXE reached 88.0% (norm: 83.3%), and EPE was 66.5% (norm: 64.54%). In the 8–9 years group, the average RT was 1.06 seconds (norm: 0.82s), and MVL was 3.7°/s (norm: 5.42°/s), while DCL was elevated at 73.50% (norm: 60.20%). Both MXE (88.0%) and EPE (79.75%) in this group were comparable to their respective normative values (83.2% and 69.2%). **Conclusion:** Our findings demonstrate that postural control is compromised in children with ALL undergoing consolidation therapy. Elevated sway speeds on firm surfaces suggest diminished balance performance, while the mixed results on foam conditions highlight difficulties with sensory integration. These preliminary observations underscore the need for targeted interventions and further research with larger samples to clarify the mechanisms behind these deficits.

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