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Pre and post treatment nutrition status of Saudi children with acute lymphoblastic leukemia

Atta-ur-Rehman Khan
Prince Muhammad Bin Abdul Aziz Hospital- AlMadinah AlMunawarrah, Kingdom of Saudi Arabia

Abstract

Objective: To assess the Nutrition Status of the Saudi children with acute lymphoblastic leukemia (ALL) admitted for anticancer treatment at Princess Norah Oncology Center, King Abdulaziz Medical City-Jeddah from January 2000 – December 2007.

Methods: Two hundred and twenty four medical charts reviewed retrospectively of children with newly diagnosed ALL treated between January 2000 and December 2007. Total number of patients after exclusions as per protocol criteria was 219 subjects. The Children's Cancer Group (CCG) 1991 and CCG 1961 protocols were used. All subjects were below 14 years of age at time of presentation. The Median age was 4.8 (range: 1 – 12.3) years. Patients were classified according to Waterloo classifications of malnutrition (1976) into three categories: I. Undernourished (UN), II. Well Nourished (WN) and III. Obese (Ob) categories during three phases: Pre-, Post-treatment, and last follow up.

Results: Table 1 depicts nutritional status by category and treatment phase: In Group-I (UN) Pre Treatment 42%, Post Treatment dropped to 28% and further dropped to 19% in the consequent follow ups. Total number of missing cases was 38 in the Pre-treatment leaving 181 patients. In Group-II (WN) Pre Treatment 54%,Post Treatment gone up to 64% and remained 63% in the consequent follow ups. Total number of Drop-Outs was 52 cases in the Post-treatment phase leaving total of 167 patients. In Group-III (Ob) Pre Treatment 04%, Post Treatment increased to 08% and further increased to 18% in the consequent follow ups. Number of Drop-Outs was 65 cases in the follow up phase leaving total to 154 patients.

Conclusion: Undernourishment is a major problem in children with newly diagnosed ALL in our population. However, optimal nutritional intervention can improve nutritional status during and post treatment. Further studies are needed to assess nutritional needs and outcome of children diagnosed with cancer.

Table: % Distribution of Patients based on Nutrition Status Pre and Post Treatment

Nutrition Status	Follow up	Post Tx	Pre Tx
Under Nourished %	19 %(n=30)	28 %(46)	42 %(n=76)
Well Nourished %	63 %(n=97)	64 %(107)	54 %(n=98)
Obese %	18 %(27)	8 %(14)	4 %(n=7)
Total	154	167	181