FACTORS ASSOCIATED WITH THE DEVELOPMENT OF TUMOR LYSIS SYNDROME AMONG PEDIATRIC CANCER PATIENTS AT THE PHILIPPINE CHILDREN'S MEDICAL CENTER

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INTRODUCTION

Tumor lysis syndrome is an oncologic emergency resulting from chemotherapy in cancer treatment and any delays in the recognition of this condition could result to life-threatening conditions. Recognizing the risks associated in the development of tumor lysis syndrome early and giving of prophylactic hydration, and treatment may help decrease the risk of patients to develop tumor lysis syndrome. The primary objective of this study is to identify the risk factors for tumor lysis syndrome among cancer patients at the Philippine Children's Medical Center (PCMC).

METHODOLOGY

This is a retrospective case-control study. Descriptive statistics was utilized to summarize patient characteristics. Group matching for age and cancer type was done. Categorical variables were compared using chi-square test whereas continuous variables were compared using independent t-test. The association between tumor lysis and patients characteristics was determined through simple and multiple logistic regression analysis.

RESULTS/FINDINGS

A total of 712 charts of patients with malignancy seen from 2016-2020 were reviewed. The following profiles were associated with TLS: Patients who were underweight or BMI < 18.5 (cOR 0.33, 95% CI 0.11-0.98, p = 0.045) were more likely to develop TLS compared to patients with normal BMI, overweight or obese. Patients with both hepatomegaly and splenomegaly were four times more likely to develop TLS (cOR 3.946, 95% CI 1.2-12.94, p = 0.023) while patients with lymphadenopathy were twice more likely to develop TLS (cOR 2.309, 95% CI 1.02-5.21, p = 0.044). Patients with elevated baseline WBC, low phosphorus and high uric acid at baseline have increased odds in developing TLS.

CONCLUSION

After group matching for age and cancer type, the following were associated with increased odds of TLS: hepatosplenomegaly, lymphadenopathy, elevated baseline WBC, low potassium level, low phosphorus and high uric acid at baseline with higher fluid balance on monitoring

Keywords: tumor lysis syndrome, pediatric cancer, risk factors for TLS