HAEMORHEOLOGICAL PARAMETERS AND PERFORMANCE STATUS IN AFRICAN CHILDREN WITH BURKITT'S LYMPHOMA

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ABSTRACT

BACKGROUND: Burkitt's lymphoma is a high grade childhood malignancy that is endemic in tropical countries. Performance status is one of the prognostic indices used in lymphoid malignancies. Late presentation resulting from illiteracy and poverty may worsen the prognosis of Burkitt's lymphoma in Nigerian children. Haemorheological parameters have not been fully determined in Nigerian children with Burkitt's lymphoma.

AIMS: To assess haemorheological parameters and define their association with performance status in Nigerian children with Burkitt's lymphoma.

METHODS: Study population comprised of 17 children with clinical and laboratory diagnosis of Burkitt's lymphoma and 10 apparently healthy children as control group. Ten milliliters of blood was collected for haematological and haemorheological parameters from the cubital vein while avoiding stasis. The haematocrit and white cell count were determined using standard methods. Plasma viscosity was measured according to the method of Ugwu and Reid while plasma fibrinogen concentration was estimated according to clot weight method of Ingram. Performance status was assessed using the Eastern Cooperative Oncology Group (ECOG) Scale. Data was analysed using Instat Graghpad T.^{m} Student t-test was used to compare group means. Pearson correlation coefficient was used to determine bivariate association between performance status and haemorheological parameters and association between plasma fibrinogen and plasma viscosity.

RESULTS: A total of27 children were studied comprising 17 mean age10.8±2.4 (9 males and 8 females) with clinical and histological diagnosis of Burkitt's lymphoma and 10 apparently healthy children mean age 10.06 ± 2.11 (5 males and 5 females) as controls. The mean plasma viscosity and plasma fibrinogen were significantly higher in patients than controls ($p<0.001$). There was no statistically significant different between total white cell count in patients and controls($P>0.05$). The ECOG performance status correlated negatively with haematocrit in patients ($r = -0.8688$, $P<0.00\ 1$). There were positive correlations between ECOG and plasma fibrinogen ($r = 0.7703$, $P = 0.0003$) and plasma viscosity($r = 0.7358$, $P = 0.0008$). The plasma fibrinogen also correlates with plasma viscosity($r = 0.9162$, $p<0.001$).

CONCLUSION: Plasma fibrinogen concentration and plasma viscosity are significantly higher in Burkitt's lymphoma patients compared to children without the disease. Correlation obtained between fibrinogen, plasma viscosity and performance status in children with Burkitt's lymphoma may suggest a contribution of plasma fibrinogen to the morbidity and mortality in Burkitt's lymphoma