PP 19: An attempt to study the behavior of plasma Hemoglobin in post transfusion iron chelated state in beta thalassemia major patients at Thalassemia Unit Kurunegala

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Introduction: Beta thalassemia major (βTM) patients require regular blood transfusions due to improper synthesis of normal hemoglobin.

Objectives: The aim of this study is to make an attempt to examine the behavior of plasma hemoglobin of βTM patient in post transfusion iron chelated state.

Methods: 145 patients from age 2-35 years (Male=113; Female=32) who were diagnosed with βTM selected for the study. Monthly haemoglobin values and 6-month Serum Ferritin (SF) values were obtained from their BHTs for two consecutive years. Correlations in between SF and haemoglobin were established using SPSS (version 20). The maximum and minimum pre-transfusion haemoglobin values (MaxPreHb and MinPreHb) were calculated for each month based on gender.

Results: Most of the pre-transfusion haemoglobin values of patients lie within the 4-11 g/dl range and a statistically significant difference (p=0.021) is shown between MaxPreHb and MinPreHb. In gender wise analysis, it was shown that statistically significant differences were observed between MaxPreHb and MinPreHb of females (p=0.004) and males (p=0.013). The overall variation among MinPreHb (SD=0.81) is more compared with that of MaxPreHb (SD=0.53). The variation among MinPreHb of females and males (SD=0.71 and 1.75) is more compared with that of MaxPreHb (SD=0.40 and 1.75). However, there was no correlation between SF and haemoglobin.

Conclusions: The data reveals, the group of haemoglobin around 5.0 g/dl indicates that those patients had not been compensated well by the blood transfusion. This may be due to excess haemolysis in that group. However, the other group of haemoglobin around 11.0 g/dl indicates the transfusion may have affected well.

Keywords: Beta Thalassemia, Haemoglobin, Serum Ferritin