Endocrine Dysfunctions in Transfusion Dependent Thalassemic Children: An Observational Study

Sakshi Gupta, Ayesha Ahmad, Zeeba zaka-ur-rab, Muhammed Saleeq, Nazish Malik. Jawaharlal Nehru Medical College, Aligarh Muslim University

Background Multiple transfusion therapy in Thalassemia Major has led to increased life expectancy but complications like endocrine dysfunction can occur due to secondary iron deposition especially in the endocrine organs despite chelation therapy.

Objectives The objective of this study was to determine the prevalence of endocrine dysfunctions in Transfusion dependent Thalassemic patients and correlation between serum ferritin levels and specific endocrine dysfunction.

Methods The study included Transfusion dependent Thalassemic patients between the age group 5 to 18 years receiving at least a year of chelation therapy with deferasirox in a tertiary care centre. After proper consent/assent and clearance from the ethical committee, patients’ characteristics and investigations were recorded on a predesigned proforma. Patients were analysed for endocrine dysfunctions like Growth hormone deficiency, Hypothyroidism, Parathyroid dysfunction, dysglycemia and delayed puberty. Assessment for parathyroid dysfunction, dysglycemia and puberty was done in patients more than 10 years of age only. Data was expressed as Mean± S.D. with 95% confidence Intervals. Correlation between endocrine dysfunctions and serum ferritin levels was investigated using Pearson’s correlation and p value of <0.05 was considered significant.

Results A total of 50 patients completed the study, out of which 16 patients were more than 10 years of age. The mean age of the study participants was 8.3±2.70 years with a male to female ratio of 2.8:1. The mean age of diagnosis was 16.87±14.03 months and mean duration of chelation was 38.40±26.71 months. Endocrine dysfunction was observed in 28 patients (56%). Evaluation for parathyroid dysfunction, dysglycemia and pubertal disorders was done in patients more than 10 years of age only while short stature and thyroid dysfunction was evaluated in all 50 patients completing the study. Maximum prevalence was of parathyroid dysfunction, observed in 10 patients (62.5%) followed by short stature in 7 patients (14%). Pubertal delay and overt diabetes were not detected in any of the patients. Growth hormone deficiency on provocative stimulation test was observed in 8 patients out of 17 patients (47.05%) with short stature. The serum ferritin levels did not show a significant correlation with any of the endocrine dysfunctions.

Conclusions This study showed that 56% of the Transfusion dependent Thalassemics had at least one endocrinopathy. A statistically insignificant correlation of endocrinopathy with serum ferritin levels was observed in the study. Irrespective of chelation therapy, patients with transfusion dependent thalassemia can have a considerably high prevalence of endocrine complications. Serum levels of ferritin cannot be utilised as a predictor of endocrinopathies. Therefore, all patients with Thalassemia requiring frequent transfusions should undergo regular monitoring for endocrinopathies.

British Association of Perinatal Medicine and Neonatal society

Effects of Continued Folic Acid Supplementation During the Second and Third Trimesters of Pregnancy on Children’s Neurocognitive Development at 11 Years

1Mark Rollins, 2Aoife Caffrey, 3Kristina Pentieva, 4Tony Cassidy, 5Royal Jubilee Maternity, Belfast, UK

Background Peri-conceptional folic acid (FA) supplementation is known to prevent neural tube defects. It remains uncertain whether continuing FA after the first trimester has benefits for offspring neurodevelopment. A previously published follow up study of Mothers who had participated in a randomized trial of FA Supplementation in the Second and Third Trimesters (FASSTT) in pregnancy and who had received 400 micrograms/day FA or placebo from the 14th gestational week until the end of pregnancy showed their offspring at both 3 and 7 years scored significantly higher than the placebo group in word reasoning and cognition.

Objectives Follow up investigation of 11 year old children, whose Mothers had participated in a randomized trial of FA Supplementation in the Second and Third Trimesters (FASSTT) in pregnancy and received 400 micrograms/day FA or placebo from the 14th gestational week to determine if previous improvement in Cognitive performance and brain function persists in this age group.

Methods Mother - child pairs who undertook the FASSTT trial (healthy pregnant women aged 18–35 years with singleton pregnancy) and who had taken 400 micrograms/day of FA in the first trimester were randomized to receive FA supplements or placebo until the end of pregnancy. When the child was 11 years old Mother-child pairs were recruited by invitation to undergo assessment of the child’s Cognitive performance by the Wechsler Intelligence Scale for Children (WISC-IV). Assessors were blinded to the treatment allocation of the