

# COGNITIVE FUNCTION IN CHILDREN WITH $\beta$ -THALASSEMIA MAJOR

**AIM: To assess Intelligence Quotient (IQ) in transfusion dependent  $\beta$ -thalassemia major patients using Malin Intelligence Scale and to correlate verbal IQ, performance IQ and full scale IQ with serum ferritin levels and annual blood transfusion requirements**

| SUBJECTS   | ASSESSMENT  | RESULTS   |               |                     |                    |   |
|--|---|---|---------------|---------------------|--------------------|---|
| Transfusion dependent $\beta$ -thalassemia major children aged 6 years to 15 years 11 months. ( <b>N=100</b> ) | IQ was assessed using <b>Malin Intelligence Scale (MISIC)</b> | <b>Correlation of Verbal, Performance &amp; Full Scale IQ with Parameters</b> |               |                     |                    | There was significant negative correlation of serum ferritin with object assembly component of PIQ and annual blood requirement with general comprehension component of VIQ |
|  |   | <b>Parameters</b>   | <b>Verbal</b> | <b>Performance</b>  | <b>Full scale</b>  |   |
|  |   | Age at diagnosis  | 0.130         | -0.273 <sup>a</sup> | -0.068             |   |
|  |   | Pre-transfusion Hb  | 0.192         | 0.280 <sup>a</sup>  | 0.274 <sup>a</sup> |   |
|  |   | No. of blood transfusions   | -0.077        | -0.086              | -0.090             |   |
|  |   | Annual blood requirement  | -0.174        | -0.084              | -0.151             |   |
|  |   | Serum ferritin level  | -0.078        | -0.184              | -0.141             |   |
| Mean full scale IQ = 95.96 $\pm$ 7.23. ('average' in most patients)  |   |   |               |                     |                    |   |

**Conclusion: IQ correlates with age at diagnosis and average annual pre-transfusion haemoglobin, highlighting the importance of early diagnosis and maintenance of satisfactory hemoglobin levels.**

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