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Role of IGF-I in growth retardation of thalassemic adolescents

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Objective: The aim of the study was to determine the role of insulin like growth factor-I in growth retardation of thalassemic adolescents.
Materials and Methods: The study included 103 thalassemic adolescents, 56 girls and 47 boys, aged between 13-18 years, attending Day Care Center, Yangon Children Hospital. Growth retardation was determined according to HFA SD score. Patients having HFA between -2SD and -3SD were considered as short-statured and those having ≤-3SD as severe short-statured ones. Growth velocity was determined from the difference in height between two visits with at least six month interval. Serum IGF-I level was determined by sandwiched ELISA method.
Results: Of 103 patients, 86.4% (n=89) patients had growth retardation among which 29.2% (n=26) were short-statured and 70.8% (n=63) were severe short-statured. The remaining 14 patients exhibited no growth retardation. No significant difference in serum IGF-I levels was seen between the patients with and without growth retardation (p=0.83). However, serum IGF-I level of the patients with severe short stature was significantly lower than that of those with short stature (p=0.03). A strong positive correlation was seen between serum IGF-I level and growth velocity ($r = 0.58$, $p < 0.001$) in the patients.
Conclusion: Retarded growth is found to be highly prevalent in the thalassemic adolescents attending Day Care Center, YCH. It is concluded that IGF-I may have a significant role in severe growth retardation and impaired growth velocity in the thalassemic adolescents