Treatment of Growth Hormone Deficiency in Langerhans Cell Histiocytosis

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Abstract

Objective: Langerhans cell histiocytosis (LCH) is a rare disorder, with diabetes insipidus (DI) occurring in up to half of patients. Growth failure is also a common finding and may be caused by illness itself, treatment, hormone deficiencies (DI, growth hormone deficiency-GHD). GH replacement therapy (GHRT) is an effective treatment in patients with GHD.

Methods: We report the results of long-term GHRT in three patients with LCH who developed central DI and hypopituitarism. All patients were diagnosed histopathologically by bone biopsy from the lytic lesions of the skull. The three patients received chemotherapy (vinblastine), while two of them also received radiotherapy.

Results: During follow-up, all patients developed GHD, two patients had also hypothyroidism and one had adrenal insufficiency. The patients received GHRT for 2.5-8 years. All patients had an increased growth velocity during GH treatment. One patient is still on GHRT and the latest height standard deviation score (SDS) was -1.7 at the age of 7 years. The other two patients attained final height SDS of -0.9 and 0.

Conclusion: GHD may develop either due to the disease itself or its treatment. GHRT is a safe and effective treatment in patients with LCH who developed GHD. Patients should be monitored closely and carefully for recurrence and hormone deficiencies by a multidisciplinary team.