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Original article

Clinical, Hormonal and Metabolic Features of Hypothalamic Obesity in Children and Adolescents After Removal of Craniopharyngioma

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ABSTRACT

Craniopharyngioma is a rare embryogenic tumor of the chiasmatic-sellar region with a low degree of malignancy (WHO G) and a high recurrence rate, developing as a result of disruption of the process of involution of embryonic cells of the craniopharyngeal tract . With an overall incidence of 0.5–2 new cases per million population per year, 30–50% of all cases occur in childhood and adolescence. In children and adolescents, the peak incidence occurs between the ages of 5 and 14 years, but the tumor can manifest at any age, including the pre- and neonatal period . Despite the favorable outcome and satisfactory treatment results, the quality of life of patients is reduced due to complications associated with the anatomical proximity of craniopharyngioma to the optic nerve, optic chiasm, pituitary gland and hypothalamus. Modern possibilities of hormone replacement therapy can significantly improve the quality of life of patients operated on for craniopharyngioma. Damage to the hypothalamus associated with infiltrative processes, tumors and the consequences of treatment often leads to the development of obesity, characterized by rapid and steady weight gain. One of the most common causes of hypothalamic obesity in children and adolescents is craniopharyngioma. Thus, understanding the pathogenesis of hypothalamic obesity can undoubtedly improve the understanding of the mechanisms of development and constitutional exogenous obesity. Objective of the study is to make a comprehensive assessment of the clinical, hormonal and metabolic features of hypothalamic obesity in children and adolescents after removal of craniopharyngioma.

Keywords: *Obesity, Hypothalamic, Craniopharyngioma, Clinical, Hormonal, Metabolic*