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INTRODUCTION

Empty sella refers to the radiographic appearance of an enlarged or deformed sella turcica and it is considered a rare occurrence in childhood. Many reports have suggested that it is associated with hypothalamic-pituitary dysfunction, with a high prevalence of growth hormone deficiency, as well as multiple pituitary hormone deficiency, idiopathic delayed puberty and isolated diabetes insipidus.

OBJECTIVES

We describe the case of a girl in whom central precocious puberty was diagnosed in association with a partially empty sella and who had no other hypothalamic-pituitary dysfunction.

METHODS

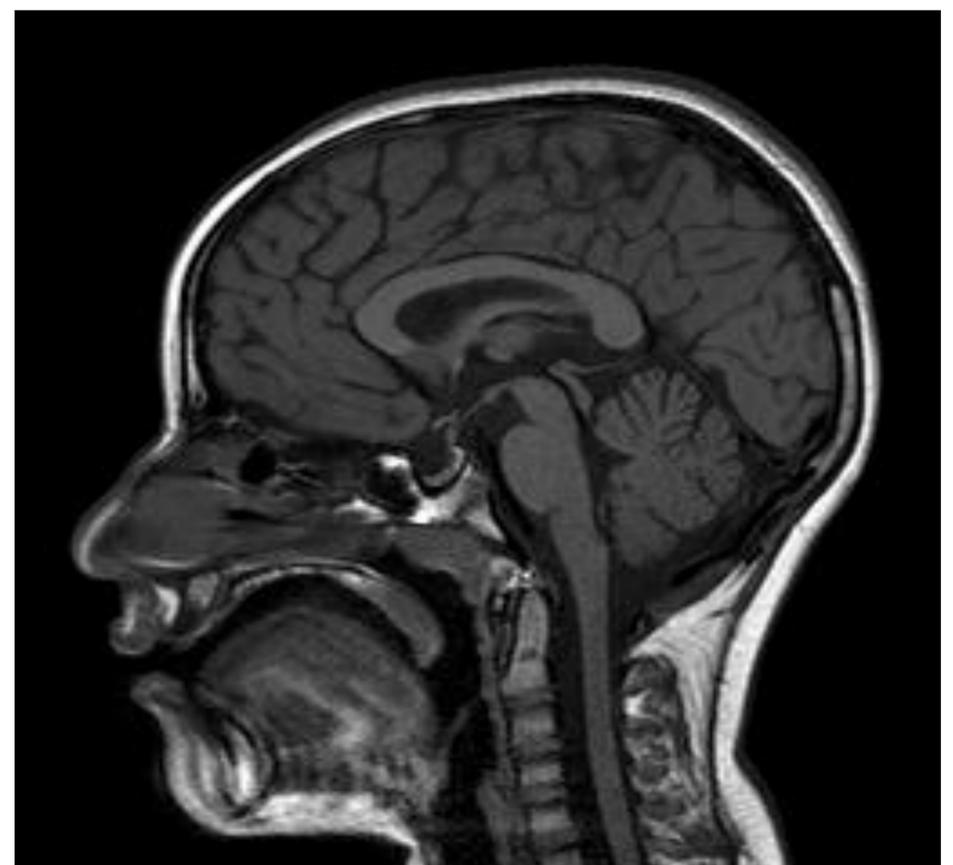
The girl was evaluated at the age of 6 years and 6 months for an early pubertal development. Family history could not be assessed because the child has been adopted in Nepal. Breast development corresponded to Tanner stage II. We noticed an increase in growth velocity that was of 6 cm in six month. She performed blood count, urinalysis, hepatic profile, thyroid function, tumour markers, a GnRH stimulation test, bone age, pelvic ultrasound and a brain MRI.

RESULTS AND CONCLUSIONS

All tests performed were normal. The GNRH test revealed a pubertal response with a FSH peak concentration of 19.9 mUI/ml and LH peak of 38.1 mUI/ml, both at 30 minutes. Her bone age (Greulich and Pyle method) was 8 years. Pelvic ultrasound showed higher uterine volumes and fundus/cervix ratio and increased ovarian volume with multiple follicles.

The MRI of the hypothalamic-pituitary region revealed a partially empty sella. She performed: basal growth hormone, cortisol, IGF-1, prolactin and serum electrolyte that were all normal.

The association of central precocious puberty with primary empty sella has been documented infrequently, and it may be due to the stretching of the pituitary stalk causing an increase of the LHRH transport mechanism by the hypothalamus to the pituitary gland.



The role of MRI in highlighting these anatomic abnormalities is therefore essential to detect the pathogenetic basis of endocrine disorders in case of empty sella.

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