Pituitary stalk duplication with intrasellar dermoid and herniation of the third ventricle

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An 11-year-old boy with short stature (height 111 cm) had a weight of 19 kg and a bone age of 5 years. There were low levels of all the anterior pituitary hormones, but no evidence of central diabetes insipidus. Coronal MR images (Fig. 1) showed duplication of the pituitary infundibulum (arrowheads) and hypothalamus (arrows). A well-defined T1-hyperintense lesion consistent with a dermoid (star) was seen within the sella between the duplicated stalks. Sagittal images (Fig. 2) showed intrasellar and trans-sellar herniation of the third ventricle (star). The anterior pituitary was single; the posterior pituitary was normal.

Fig. 1 Coronal T1-W MR image shows duplicated pituitary stalks (arrowheads) with a split in the hypothalamus (arrows) and intrasellar dermoid (star)

Fig. 2 Sagittal T1-W MR image shows downward extension of the third ventricle (star) into the nasopharynx via a defect in the sellar floor (C optic chiasm, D dermoid)

Complete duplication of the pituitary is a rare congenital anomaly associated with various midline facial and oral anomalies [1]. Isolated duplication of the infundibulum is very rare [1]. Various causes for duplication have been proposed, one of them being midline inclusion dermoid [2]. Abnormal hormone secretion causing either precocious or delayed puberty is due to associated disruption of the hypothalamic hormonal milieu [2].

References

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