Ectopic posterior pituitary results from incomplete caudal extension of the diencephalon during embryogenesis. The portal circulation carrying hypothalamic-releasing hormones to the adenohypophysis is disrupted, resulting in growth hormone deficiency and more rarely panhypopituitarism.

It is associated with septo-optic dysplasia, with the HESX-1 gene being implicated in both conditions.

MRI demonstrates a 3- to 8-mm T1-hyperintense nodule at the median eminence (figures 1 and 2). The normal posterior pituitary bright spot is absent. The intrinsic T1 hyperintensity relates to lipid-rich neurosecretory granules within the neurohypophysis. Radiologic differential diagnoses include fat-containing tumors (lipoma, dermoid, teratoma, and craniopharyngioma) and thrombosed aneurysms.

Treatment involves replacing the deficient pituitary hormones.
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