Double pituitary adenomas have previously been identified during histological examination of surgical specimens or at autopsy.1–5 We describe a case of double pituitary adenomas detected on preoperative magnetic resonance (MR) images.

This 61-year-old woman presented with the typical features of acromegaly. Basal serum levels of growth hormone (GH) and insulin-like growth factor–I (IGF-I) were 37.8 and 661.2 ng/ml, respectively. Coronal T1-weighted MR imaging demonstrated a hypointense lesion on the left side of the pituitary fossa and a more extensive isointense mass on the right side (Fig. 1A). Gadolinium-enhanced coronal T1-weighted MR imaging demonstrated the two lesions located in the pituitary fossa (Fig. 1B). The tumor on the right side, which was larger, whitish, and soft, and that on the left side, which was smaller and pearl-gray, were removed separately via a transsphenoidal approach. Postoperative serum GH and IGF-I levels were 5.3 and 381.2 ng/ml, respectively. Histological examination, after hematoxylin and eosin staining, revealed the tumor on the right side to be an acidophilic and partially chromophobic adenoma. Immunohistochemical staining elicited a positive reaction for GH and negative ones for prolactin and adrenocorticotropic, thyroid-stimulating, luteinizing, and follicle-stimulating hormones (Fig. 1C). The tumor on the left side was a chromophobic adenoma, and immunohistochemical staining confirmed nonfunctioning features (Fig. 1D). Findings on electron microscopic studies also confirmed these differences.

Detailed evaluation of pituitary adenomas performed using preoperative MR images should include the whole pituitary gland to detect multiplicity of these tumors.

References