

What Should We Know in BIPPS

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Abstract

Cushing's syndrome is a rare endocrine disease characterized by hypercortisolemia caused by excess ACTH secreted by the pituitary. Distinguishing pituitary sources from the ectopic sources of ACTH is challenging because of the limited accuracy of noninvasive assays. The test that offers the highest sensitivity and specificity is bilateral inferior petrosal sinus sampling (BIPSS). In patients without a suggestive pituitary lesion on MRI of greater than 1 cm in size, inferior petrosal sinus sampling provides excellent specificity and higher sensitivity than other available biochemical testing strategies. BIPSS is an interventional radiology procedure in which ACTH levels obtained from venous drainage very near the pituitary gland are compared to peripheral blood levels before and after corticotropin hormone (CRH) stimulation. A gradient between these two locations indicates pituitary Cushing's, whereas the absence of a gradient suggests ectopic Cushing's. In some cases, intrapituitary gradients from side-to-side can be helpful to localize small adenomas within the sella. BIPSS has rare complications and is considered safe.

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