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## From the Clinical Research Centers

# Cavernous Sinus Sampling Is Highly Accurate in Distinguishing Cushing's Disease from the Ectopic Adrenocorticotropin Syndrome and in Predicting Intrapituitary Tumor Location<sup>1</sup>

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Inferior petrosal sinus sampling (IPSS) is used to distinguish pituitary Cushing's disease from occult cases of the ectopic ACTH syndrome, but is limited in that it requires the use of ovine CRH (oCRH) and is not highly accurate at predicting the intrapituitary location of tumors. This study was designed to determine whether cavernous sinus sampling (CSS) is as safe and accurate as IPSS, whether CSS can eliminate the need for oCRH stimulation, and whether CSS can accurately predict the intrapituitary location of tumors.

Ninety-three consecutive patients with ACTH-dependent Cushing's syndrome were prospectively studied with bilateral, simultaneous CSS before and after oCRH stimulation. Prediction of a pituitary or ectopic ACTH source was based on cavernous/peripheral plasma ACTH ratios. Intrapituitary tumor location was predicted based on lateralization (side to side) ACTH ratios. These predictions were compared to surgical outcome in the 70 patients who had surgically proven pituitary (n = 65) or ectopic (n = 5) disease.

CSS distinguished pituitary Cushing's disease from the ectopic ACTH syndrome in 93% of patients with proven tumors before oCRH administration and in 100% of patients with proven tumors after oCRH. It was as safe and efficacious as published IPSS results. CSS accurately predicted the intrapituitary lateralization of the tumor in 83% of all patients and 89% of those patients with good catheter position and symmetric venous flow.

CSS is as safe and accurate as IPSS for distinguishing patients with pituitary Cushing's disease from those with the ectopic ACTH syndrome. In addition, CSS appears to be superior to IPSS for predicting intrapituitary tumor lateralization.

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