# Cavernous sinus invasion by pituitary neuroendocrine tumor

The MR images obtained in 106 patients (86 female, 20 male; age range, 16-71 years) were reviewed retrospectively by two physicians. The standard-of-reference criteria for the invasion were the surgical findings. A chi(2) analysis was performed, and the sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) for nine groups of MR imaging signs were computed.

Results: Invasion of the cavernous sinus was certain (PPV, 100%) if the percentage of encasement of the internal carotid artery (ICA) by tumor was 67% or greater. It was highly probable that the carotid sulcus venous compartment was not depicted (PPV, 95%) or the line joining the lateral wall of the intracavernous and supracavernous ICAs was passed by the tumor (PPV, 85%). It was definitely not invaded (NPV, 100%) if the percentage of encasement of the intracavernous ICA was lower than 25% or the line joining the medial wall of the intracavernous and supracavernous ICAs was not passed by the tumor.

Conclusion: The radiologic diagnosis of cavernous sinus invasion by pituitary neuroendocrine tumor remains difficult, but the above-mentioned criteria may be of assistance [1)]

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Cottier JP, Destrieux C, Brunereau L, Bertrand P, Moreau L, Jan M, Herbreteau D. Cavernous sinus invasion by pituitary neuroendocrine tumor: MR imaging. Radiology. 2000 May;215(2):463-9. doi: 10.1148/radiology.215.2.r00ap18463. PMID: 10796926.