

Pediatric Macroadenoma

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Patient Presentation

Sudden onset headache.

Imaging



Exam Findings

Sagittal CT showed a hyperattenuating and enlarged sellar region (not shown). Subsequent MRI showed an enlarged pituitary measuring 1.4 x 1.3 x 1.8 cm with T1 precontrast peripheral hyperintense signal with corresponding T2* blooming (shown on the right). After administration of intravenous gadolinium the anterior aspect of the pituitary lesion measuring 1.2 x 1.0 cm fails to demonstrate homogenous enhancement. There is no T2 abnormality within the pituitary lesion to suggest necrosis. Evaluation of the cavernous sinuses on T1 coronal imaging demonstrates invasion of the bilateral cavernous sinuses, but without loss of flow voids to suggest cavernous sinus thrombosis. There is also suggestion of sphenoid bone invasion with a significant amount of reactive and enhancing mucoperiosteal thickening of the sphenoid sinus. Slight mass effect on the optic chiasm.

Impression

Findings consistent with hemorrhagic pituitary macroadenoma measuring 1.4 x 1.3 x 1.8 (Craniocaudal x AP x Transverse) with invasion of the cavernous sinuses, but without cavernous sinus thrombosis or necrotic components. Question synchronous invasion of the sphenoid sinus with a significant amount of reactive mucoperiosteal thickening. Slight mass effect on the optic chiasm.

Imaging Continued



Discussion

Pituitary macroadenomas are the most common suprasellar mass in adults. They are defined as adenomas greater than 10 mm in size and are twice as common as microadenomas.

Patients typically present with symptoms of local mass effect, most commonly at the optic chiasm, or hormonal imbalance. Rarely, patients may present with pituitary apoplexy.

Macroadenoma invasion into the cavernous sinus is most common in prolactin-secreting tumors. Invasion results in tumors that are more difficult to resect completely. Cranial nerve compression occurs in 1-14% of cases. The oculomotor nerve (CN III) is most commonly involved, followed by the abducens nerve (CN VI).

Differential diagnosis includes pituitary metastasis, pituitary carcinoma, meningioma, papillary craniopharyngioma, lymphocytic hypophysitis, and saccular cerebral aneurysms.

Reference:

<https://radiopaedia.org/articles/pituitary-macroadenoma-1?lang=us>

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