Pituitary macroadenoma diagnosis

Radiographic features

Pituitary macroadenomas are by definition >10 mm diameter masses arising from the pituitary gland, and usually extending superiorly into the suprasellar cistern where it can compress the chiasm. Bilateral indentation by the diaphragma sellae as the tumor passes superiorly can give a snowman or figure-eight configuration

Because these tumors are typically slow-growing, the pituitary fossa is almost invariably enlarged with thinned remodeled bone.

CT

Non-contrast attenuation can vary depending on hemorrhagic, cystic, and necrotic components. Solid adenomas without hemorrhage, typically have attenuation similar to the brain (30-40 HU) and demonstrate moderate contrast enhancement; less marked than one typically sees in meningiomas. Calcification is rare.

MRI

Pituitary macroadenoma Magnetic resonance imaging

Nuclear medicine

PET-CT

The normal pituitary gland should not demonstrate significant FDG uptake and are normally not seen on PET-CT 12. Pituitary macroadenomas are highly hypermetabolic both with FDG and choline tracers.