

An Unusual Giant Brain Tumor: From where is it starting?

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Case report

A 77-year-old woman presented to our hospital after a progressive incoming of confusion. The clinical examination revealed a moderate loss of visual acuity but no other neurological symptoms, particularly no headaches. Otherwise her general medical status was good. A computed tomographic scan (Figure 1) showed a large deep frontal abnormality that relevantly shifted the ventricles and the frontal lobe. Then, magnetic resonance imaging (Figures 2 and 3) discovered a giant tumor extending from the sella turcica into the third and left lateral ventricle. Its size was measured at 71 by 59 by 53 mm in axial, frontal and sagittal diameters. The gadolinium enhancement was homogeneous except for top cystic portions. There is another little tumor on the ipsilateral frontal convexity with similar MRI signal. Blood parameters were concordant with an isolated corticotropic deficiency without any other hormonal disorders. Ophthalmologic examination showed a bi-temporal hemianopia but no papilledema. A giant non-functional pituitary adenoma was strongly suspected. Thus, we performed a neurosurgical open craniotomy to achieve a near-total tumor removal with optic decompression. There were no complications and the pathologist confirmed a pituitary adenoma, with a grade 2b of invasiveness and proliferation markers (mitosis: 4, Ki-67: 3.5%, p53:1). Otherwise, the little convexity tumor was removed in the same time and it was a meningioma of grade I of the WHO classification. The symptoms slowly improved allowing the patient to be discharged at home. Finally, this unusual giant brain tumor started from the sella and grew up until the left intra-ventricular frontal space since a lot of years without any symptoms.

Giant pituitary tumors are rare and refer to tumors originating from the sella turcica and extending by more than 40 mm, most often with a very large supra-sellar extension [1]. The overall prevalence of pituitary adenomas is estimated of 78 to 94 cases/100,000 inhabitants in European studies [2], among which 10% is in the elderly (> 65 y.o.) [3] And over half are non-functioning adenomas [4]. A large recent study on 1,104 patients shown that the elderly population presented a distinctly higher proportion of non-functional pituitary adenomas 75.4% vs 37.4%, $P < .001$) and giant ones (14.5% vs 7.6%, $P = 0.04$) than the younger [5]. Moreover, despite a few studies reported cases of giant prolactinomas that preferentially concern young to middle-aged patients [6-8], no specific images reported invalidating giant non-functional pituitary adenomas and their particular management.

Benign brain tumors growing very slowly can reach a very big size without relevant symptoms. That is the case for pituitary adenomas, which sometimes develop large supra-sellar extensions. Even in the elderly, a neurosurgical approach remains a good therapeutic choice to

obtain pathologic evidence and a satisfactory visual or brain decompression Nowadays, the optimal surgical route remain controversial since transcranial approaches have long been performed with partial results [9,10] and the new endoscopic endonasal pathway offers alternate possibilities and hopeful outcomes [11,12].

Eventually, it appeared relevant to us to touch minds and incite reasoning about the medical or surgical management in this present illustrative case.



Figure 1: A computed tomographic scan showed a large deep frontal abnormality that relevantly shifted the ventricles and the frontal lobe.

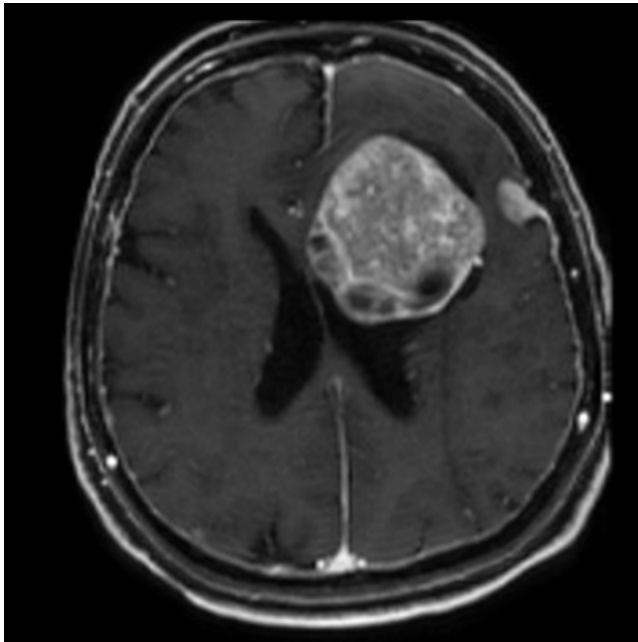


Figure 2: Magnetic resonance imaging discovered a giant tumor.

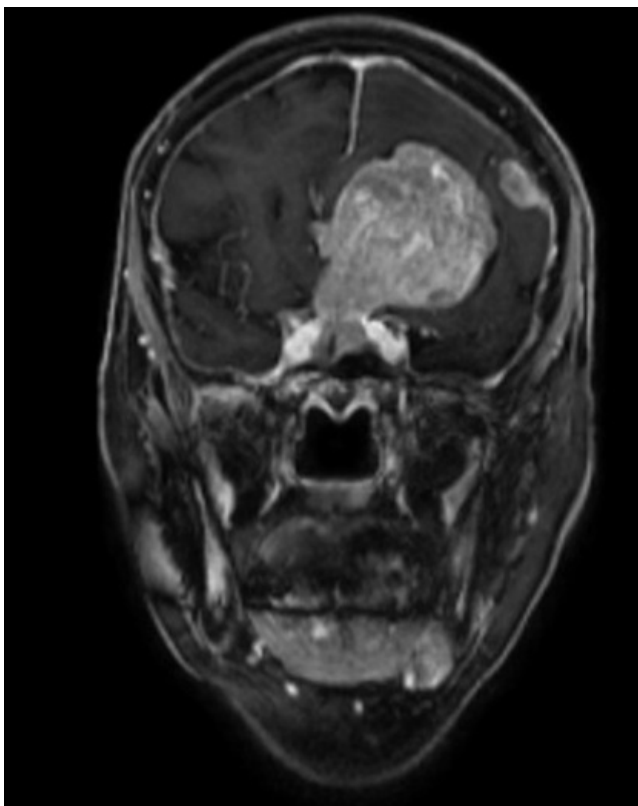


Figure 3: Magnetic resonance imaging discovered a giant tumor.

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