A Case of Oncocytoma of Adenomhypophysis Discovered by a Head Injury

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ABSTRACT

Adenohypophysis oncocytoma is a rare tumor of the pituitary region. In clinical and biological terms, the oncocytomas with fusiform cells are identical to other sellar tumors. We report a new case of oncocytoma of adenomhypophysis discovered by a head injury. The only diagnosis was confirmed by the presence of richly vascularized fusiform tumor cells whose cytoplasm is oncocyte and contains many mitochondria with no necrosis and some mitoses in anatomopathologic examination. The basic treatment is surgical excision by the endonasal endoscopic route. Radiotherapy and surgical revision are essential in the event of tumor recurrence.

Keywords: Adenoma, head injuries, Pituitary Neoplasms.

1. Introduction

Adenohypophysis oncocytoma is a benign and rare tumor of the pituitary region. It was first reported in 2002 and only fewer than 35 cases described in the literature [1]. This makes the diagnostic and therapeutic difficulty with a high rate of recurrence under treatment. We report a case of oncocytoma of adenomhypophysis following a head injury. Our objective is to describe the diagnostic means and to elaborate a taking in the light of the data of the literature.

2. Observation

This is a 74-year-old man with a history of prostate adenoma, victim of a head injury by a fall from his height after a feeling of vertigo without loss of consciousness. The brain scan performed in an emergency as a traumatic assessment showed the presence of a pituitary macroadenoma (Fig. 1). The endocrine biological assessment revealed a global antepituitary insufficiency and a bi-temporal hemianopia predominant on the left side during an ophthalmological examination. A complement of paraclinical examination by a pituitary MRI visualized a pituitary macroadenoma with the presence of a necrosis zone (Fig. 2).

A cerebral MRI check at 3 months showed an increase in the overall size of the adenoma with a disappearance of the necrosis zone and a compression of the left side chiasma in the supra-sellar. The OCT highlighted severely damaged optical fibers. Through endocrinology, he received treatment by supplementation with antepituitary hormone and a complete surgical excision by endonasal transphenoidal endoscopic route was performed.

Anatomopathological examination of the operating room concluded to be a fusiform adeno-pituitary oncocy- toma (Fig. 3). The immunohistochemical study showed a typical marking of these tumors by the antibodies Anti-PS100, Vimentine, EMA and TTF1.
3. DISCUSSION

Roncaroli Frederico first described oncocytoma of adenomhypophysis in 2002 in the American Journal of Neurochirurgical Pathology. The discovery of a new histological, immunohistochemical structure that was different from those of the pituitary adenoma or any other primary sellar tumor in 5 cases of primary adenohypophysis tumors [2].

Fusiform oncocytomas of adenomhypophysis is a rare tumor and account for 0.1% to 0.4% of bowel tumors with no neuroendocrine characteristic. There is no predominance of sex but mainly affects adults aged 24 to 80 [3].

According to the WHO classification since 2021 on tumors of the central nervous system, it is low grade. In 2018, only 33 cases were described and operated in the literature. In clinical and biological terms, oncocytomas with fusiform cells are identical to other sellar tumors. The mode of discovery is often a tumor mass syndrome type of headache, bitemporal hemianopia and visual acuity [4].

Clinical and biological hypopituitarism with a deficit in the secretion of pituitary hormones but without diabetes insipidus can be encountered. The standard imagery is pituitary MRI with an absence of own characteristics of which we find an intra or supra-sellar mass, most often iso-intense in T1 and taking the contrast after injection of Gadolinium; so, an image compatible with a pituitary macro adenoma [5]. Differential diagnoses are difficult and literature review shows about a third of diagnostic errors. The only diagnosis of certainty is the anatomopathological examination confirmed by the presence of richly vascularized fusiform tumor cells whose cytoplasm oncocyte (eosinophilic and granular) and contains many mitochondria with no necrosis and some mitoses [6]. An immunohistochemical study by positive immunolabeling with a typical fixation by antibodies Anti-EMA, protein S100, Vimentine and TTF-1 is very suggestive of the diagnosis.

Therapeutically, pituitary oncocytoma is a hypervascularized tumor with a greater risk of hemorrhagic than adenomas during surgical removal by the endonasal endoscopic route. The quality of excision is incomplete in most cases but the gold standard remains a total resection of the tumor to prevent recurrence between 3 months to 16 years after surgery [7].

The effectiveness of radiotherapy has not been demonstrated and the etiology remains poorly known. We can consider a surgical recovery, conventional radiotherapy and close imaging monitoring in case of tumor recurrence. There is a 45% recidivism rate in the literature [8].

4. CONCLUSION

The clinical and paraclinical presentation is unspecific for the Adenohypophysis oncocytoma so the diagnosis is
difficult. Anatomopathological examination is a certainty examen by the presence of richly vascularized fusiform tumor cells whose cytoplasmis oncocyte (eosinophilic and granular) and contains many mitochondria with no necrosis and some mitoses. The quality of surgical resection determines the recurrence and prognosis in the short and long term. The number of cases described in the study is insufficient to establish standardized management.

**Conflict of Interest**

Authors declare that they do not have any conflict of interest.

**References**


