

## Papillary Edema Revealing Meningioma on Computed Tomography in Bamako: A Case Report

Traore Ousmane<sup>1,2,3</sup>, N'Diaye Mamadou<sup>3</sup>, Dembélé Mamadou<sup>3</sup>, Diakitè Siaka<sup>2</sup>, Sidibe Drissa Mansa<sup>3</sup>, Diawara Abdoulaye<sup>1</sup>, Cissé Issa<sup>3</sup>, Kouma Alassane<sup>3</sup>, Diarra Ouncoumba<sup>3</sup> and Keita Adama Diaman<sup>2,3</sup>

<sup>1</sup>Radiology and Medical Imaging Department of the Medical Clinic "Marie Curie" Bamako, Mali.

<sup>2</sup>Radiology and Medical Imaging Department of the University Hospital Center of Point "G" Bamako, Mali.

<sup>3</sup>Research lecturer at the Faculty of Medicine and Odontostomatology of the University of Science and Technology of Bamako/USSTB, Bamako, Mali.

### \*Correspondence:

Dr. TRAORE Ousmane, Lecturer in radiology and medical imaging at the Faculty of Medicine and Odonto-stomatology of the University of Sciences, Techniques and Technology of Bamako, Mali, Tel: 00223 76465335.

Received: 10 Jul 2024; Accepted: 22 Aug 2024; Published: 30 Aug 2024

**Citation:** Traore Ousmane, N'Diaye Mamadou, Dembélé Mamadou, et al. Papillary Edema Revealing Meningioma on Computed Tomography in Bamako: A Case Report. Radiol Imaging J. 2024; 3(3): 1-3.

### ABSTRACT

*Meningioma is an extracerebral tumor that develops from the tissues covering the brain and not from the brain parenchyma itself. It is less rare and represents 15% of all intracranial tumors. Its discovery by ophthalmological signs is not as described in the literature. We report the case of an observation of a 45-year-old female subject, referred to the radiology department for an orbito-cerebral CT scan in a context of bilateral papillary pallor. The CT scan made it possible to make the positive diagnosis of the sellar region meningioma discovered incidentally. CT scan remains the important examination in the diagnostic management of meningioma and its extension assessment.*

### Keywords

Meningioma, CT scan, Papillary edema and Bamako.

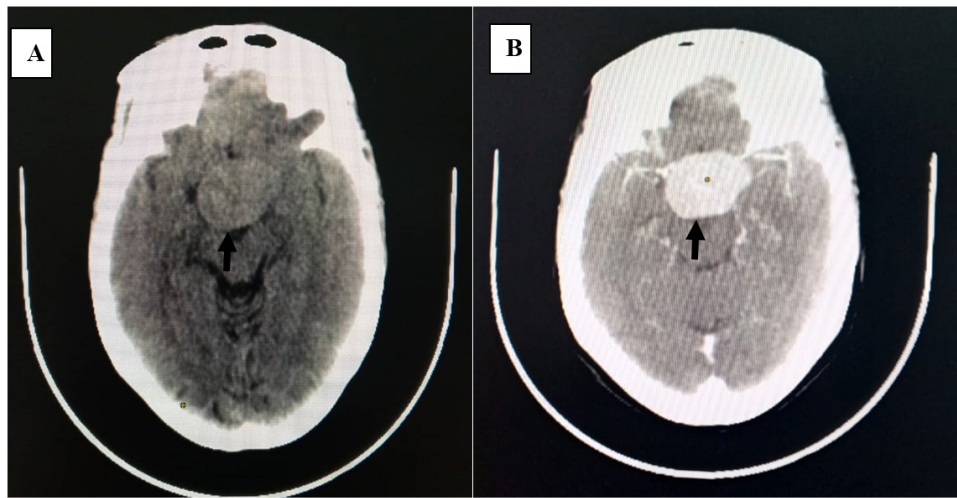
### Introduction

Intracranial meningiomas are classically benign extra-parenchymal tumors. They develop at the expense of the meningeal envelopes from arachnoid cells. Meningiomas are less rare and represent 15% of all intracranial tumors [1]. Their discovery by ophthalmological signs such as papillary edema is also described in the literature. They are slow-growing with a clear female predominance. They can occur at any age but are much more frequent in subjects aged 50 years [1]. Meningiomas can be located anywhere in the skull and outside the skull, especially in the spinal cord [2]. They can be asymptomatic or discovered incidentally. But can also be discovered through clinical signs of compression of neighboring organs such as inaugural epileptic seizure, hypertension with significant headaches, vigilance disorders and/or papillary edema and neurological deficits [3]. Medical imaging: computed tomography (CT) and magnetic resonance imaging (MRI) allows for diagnostic assessment and extension assessment and finally to

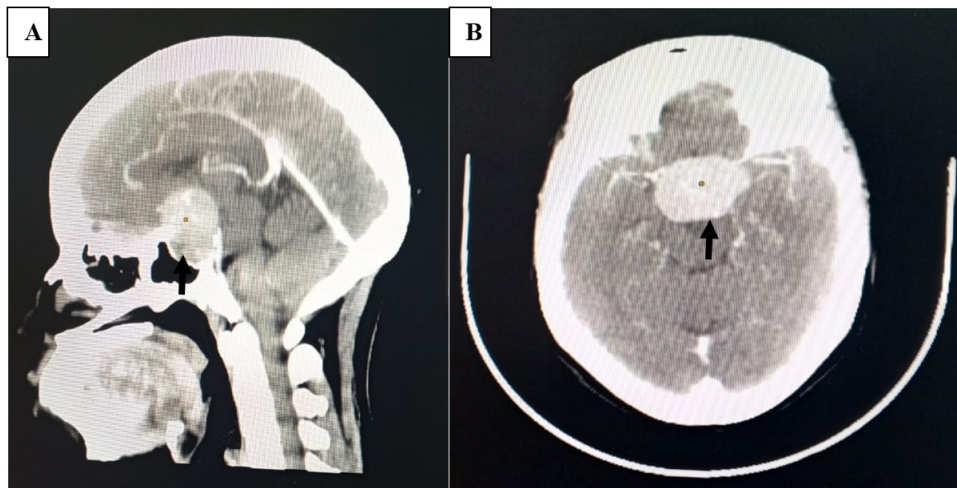
develop an adequate management strategy. The aim of our study was to study the value of CT in the management of a meningioma discovered incidentally by ocular signs.

### Observation

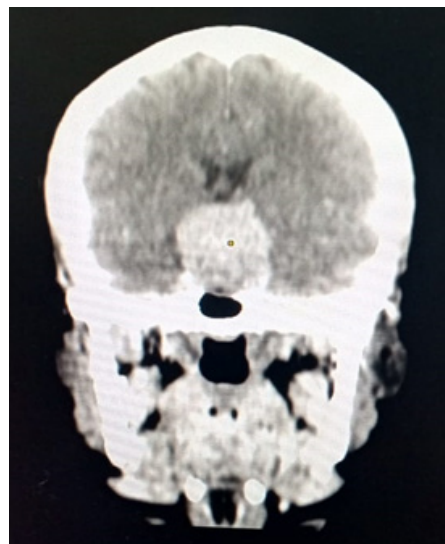
This was a 45-year-old patient with no known surgical medical history, consulted at the CHU-IOTA (University Hospital Center-Institute of Tropical Ophthalmology of Africa) for papillary edema, visual disturbances such as blurred vision and headaches predominantly in the morning. Given her ophthalmological clinical signs, the patient was referred by the CHU-IOTA for an orbito-cerebral CT scan. The useful equipment was the GE brand (General Electric OPTIMA type) of 16 bars. An acquisition without and with injection of Contrast Product (PDC) was made. We had found on the CT scan a spontaneously hyperdense extra-axial expansive process at the pituitary level well limited with a wide implantation base resting on the jugum of the sphenoid with an intense and early enhancement after injection of PDC. It was associated with a meningeal contrast uptake in the form of a comet. It measured 45x39x31 mm. This process widened the sella turcica,



**Figure 1:** Orbito-cerebral CT scan in axial reconstruction without injection of PDC (A) and with injection of PDC (B) showing the meningioma extra axially at the pituitary level well limited (black arrow) with early and intense contrast uptake and meningeal.



**Figure 2:** Orbito-cerebral CT scan with injection of PDC in sagittal (A), axial (B) reconstruction: objectifying an extra-axial process (meningioma) at the pituitary level widening the sella turcica and bulging into the lumen of the sphenoid sinus without bone lysis and in contact with the brain stem.



**Figure 3:** Orbito-cerebral CT scan with PDC injection in coronal reconstruction highlighting the extra-axial process with a wide implantation base at the level of the sphenoid juxta, well limited with an intense and early homogeneous enhancement after PDC injection suggesting a meningioma.

and bulged into the lumen of the sphenoid sinus without bone lysis and without hyperostosis (Figure 1, 2 and 3). The process arrived behind in contact with the brain stem with damage to the optic chiasm, persistence of the fatty border of separation. Absence of infiltration of the cavernous sinuses.

## Discussion

Meningiomas are common intracranial tumors and represent 15 to 35% of brain tumors in adults. The incidence of meningiomas increases with age and preferentially affects the black population than the white population [1,2]. Women are more affected than men (male-female ratio: 0.3), with a peak incidence between 45 and 50 years [4]. In our case, the subject was female, black and aged 45. These data are superimposable to those already stated in the literature. Intracranial meningioma can be asymptomatic and discovered incidentally. But can also be discovered through clinical signs related to the compression effect of neighboring organs such as inaugural epileptic seizures, intracranial hypertension with significant headaches, impaired vigilance and/or papillary edema and neurological deficits [3]. Our case was discovered incidentally during an imaging exploration to investigate the etiologies of ocular disorders. The patient had papillary edema with morning headache. There was no sign of epileptic seizure or neurological deficit. The symptomatology presented by our patient was considered secondary to the mass effect on the optic chiasm causing symptoms of visual disorders such as blurred vision and papillary edema with morning headache without motor deficit, this result was comparable to that of the literature [1]. CT and MRI are key paraclinical examinations for the diagnosis of these tumors, confirmation always remains histopathology [1]. These imaging methods allow to assess exactly the location of the tumor, the extent of the insertion base which is important to determine in order to choose the ideal approach, the relationships of the tumor with the optic pathways, the pituitary stalk, the pituitary gland and the anterior elements of the circle of Willis. It also allows to specify the relationship of the lesion with the cavernous sinus, the optic chiasm, the hypothalamus and the large cerebral arteries [1,5]. Our meningioma was at the pituitary level with widening of the sella turcica, reaching the optic chiasm without invasion of the cavernous sinus. Meningiomas are isointense in T1 and hypointense in T2 with an intense and early enhancement after

injection of gadolinium on MRI. Fat suppression sequences and centering on the anterior optic pathways are essential elements during MRI [5,6]. On CT, the lesions are extra-axial, well-defined, iso or hyperdense in spontaneous contrast, often with calcifications and intense and homogeneous enhancement after injection with meningeal implantation base (comet tail appearance), bone abnormality: hyperostosis or bone lysis type. Perilesional edema may be observed [5,6]. Our patient had benefited from CT with and without injection of PDC typically suggesting the diagnosis of meningioma without calcification or thickening or bone lysis. She had not benefited from an MRI due to lack of means and the unavailability of this examination in Mali.

## Conclusion

Intracranial meningiomas are benign and less rare primitives. Although they can be asymptomatic and discovered incidentally. Certain ocular signs should suggest this pathology. And despite the performance of magnetic resonance imaging which best evaluates meningioma, computed tomography also provides arguments in favor of the diagnosis and represents a reliable diagnostic means in developing countries.

## Reference

1. Aahd Belharti. Meningiomas: from typical to atypical: J Neuro. 2023; 50: 180-181.
2. <http://www.panafrican-med-journal.com/content/article/31/146/full/>
3. Roland N, Neumann A, Hoisnard L, et al. Progestin use and risk of intracranial meningioma: a case-control study using data from the National Health Data System (SNDS). J Epid Popu Health. 2024; 72: 202290.
4. Corniola MV, Loblirius JA, Lemée J-M, et al. Intracranial meningiomas: patient management in the microsurgical era. Rev Méd Suisse. 2020; 16: 283-288.
5. Bouaita K. Meningiomas of the sella tubercle: a series of 64 cases: J Neuro-surgery. 2014; 19: 44-50.
6. Bouyon M, Blanc F, Ballonzoli L, et al. Optic neuropathy and meningioma: A diagnostic trap: J Fr Ophtalmol. 2013; 36: 221-229.