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RESEARCH ARTICLE

BLINDNESS OF TUMOR ORIGIN, WHAT ETIOLOGY SHOULD WE MENTION!

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Abstract

Ocular metastasis is rare. They represent 4 to 8% of secondary localization, essentially choroidal (88%), the pulmonary origin came in second line after breast as primary carcinoma, the prevalence of pulmonary ocular metastasis is estimated at 7.1% [1] Ocular metastasis is usually asymptomatic. Sometimes they cause a loss of visual acuity, metamorphopsia, phosphenes or eye pain, complete unilateral blindness, secondary to a metastatic localization on the macula. A total detachment of the retina is rarely reported. Ocular metastasis diagnosis is based on multiples modality, the ocular examination coupled to angiography, ocular sonography and MRI are the key diagnosis. Ultrasonography determines tumor allows differentiation of metastases from other intraocular neoplasms, particularly melanomas. They appear as a high echoic mass rarely cavitory variant has been describe 0.5% of choroidal metastasis present with a mushroom of collar-button aspect and the thickness is related to the origin in melanoma metastasis the measuring is 1 mm, breast 2 mm, lung and prostate 3 mm, and gastrointestinal and kidney measuring 4 mm. MRI often shows a well-demarcated choroidal mass that appears isointense on T1-weighted images and hypointense on T2-weighted images enhanced after gadolinium injection.[2] The differential diagnosis of ocular metastasis includes choroidal melanoma, hemangioma, granuloma, osteoma and sclerochoroidal calcification [2] Treatment is usually based on radiochemotherapy of the primary cancer. Treatment of symptomatic choroidal metastases should be conservative as long as possible to preserve quality of life in the short term. Hormonal therapy can be effective on hormone-sensitive cancers like breast and prostate.

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Introduction:-

Medical Observation:

We report the case of a 56-year-old man who is chronically smoking, presenting a productive cough evolving for 3 months not improved under antibiotic therapy, associated with reduced visual acuity rapidly progressive, subsequently complicated by blindness in the left eye. The clinical examination regains a general condition, digital hippocratism, GCS 15/15, and complete blindness of the eye left.

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In the presence of monocular blindness, an eye fundus was performed with ocular ultrasound which highlighted evidence of a bilobed, isoechogenic superior choroidal mass with central vascularization at the Color doppler measuring about 3mm thickness, associated with retinal detachment (Figure 1).

An MRI showed a tissue process in the posterior chamber of the left eye, in intermediate signal T2, hyper signal Flair and diffusion and enhanced after injection of Gadolinium (Figure 2,3). On the sections passing through the cerebral parenchyma we found a small temporal lesion rounded left, in Flair and Diffusion hyper signal, annularly enhanced after injection of PDC, measuring 5mm surrounded by a slight peri-lesional edema (Figure 4).

Before the chronic cough, a chest x-ray was performed which revealed an opacity left apical pulmonary. Chest CT with injection of contrast product was required for a better study which revealed an upper left lobe tissue process (Figure 5). A lung biopsy was then taken, the histological study of which was in favor of a bronchopulmonary adenocarcinoma.

Diagnosis:

After histological confirmation of our diagnosis of bronchopulmonary adenocarcinoma associated with: blindness of the left eye resulting in a tissue mass in the posterior chamber taking color doppler ultrasound and hyper signal Flair and Diffusion with enhancement heterogeneous after Gadolinium injection and retinal detachment. Associated with a cerebral lesion parenchymatous in Flair and Diffusion hyper signal with annular enhancement.

Front of this set of arguments, we retained the diagnosis of choroidal and cerebral metastases of bronchopulmonary adenocarcinoma.

Discussion:-

Ocular metastases are rare in bronchopulmonary cancer (BPC) [1]. The most frequent localization is the choroid which corresponds to a vascular membrane located between the retina and the sclera more precisely at the posterior pole of the eye fundus [3].

The tumor dissemination being hematogenous, it preferentially follows the pathways of the posterior ciliary arteries short branches of the ophthalmic artery which is a branch of the internal carotid artery, causing uni or multifocal, uni or bilateral damage.

Choroidal metastases (CM) can occur regardless of the histologic type of bronchial cancer [1]. They are present at an advanced stage of the tumor. The presence of other sites metastatic is very often associated. CM in bronchopulmonary cancer come second place after breast cancer [4].

A patient with BPC, the diagnosis of CM is usually based on bundles of clinical and radiological arguments. Clinical presentations of choroidal metastasis are variable. We most often encounter metamorphopsia, a gradual decrease in acuity visual, phosphenes, eye pain, more or less complete blindness [5]. Fundus eye examination may show an achromic lesion that seems to push back the retina associated with a detachment serous retina [5].

B-mode ultrasound and color doppler ultrasound are useful especially in anterior masses. She determines the size of the tumor, its echogenicity, its vascularity, the presence or not of a retinal detachment and also helps differentiate metastases from other forms of tumors intra ocular, in particular melanoma [6].

In terms of radiological exploration, MRI remains the examination of choice for analyzing the lesion (size, shape, site, and signal) and specifies its extension to the optic nerve, intra and extra conical fat and the oculomotor muscles. We use the same section planes: axial, coronal and sagittal with sometimes oblique sagittal sections according to a plane called TONOP, (transoccipital neuro-ocular plane) with T1, T2, diffusion and T1 sequences with gadolinium injection which allow to appreciate the enhancement of mass [6]. The removal of fat after injection is systematic, because it potentiates the detection of contrast enhancements and allows for proper analysis of limits of the lesion and its relationship to the orbital structures. It is particularly necessary for the assessment of posterior lesions, because the detection of their extension towards the orbital fissure superior is clearly better studied than without fat suppression [6]. Shields et al demonstrated that the thickness of the mass tends to be correlated with the origin of metastases, for example an average thickness of metastases secondary to melanoma measures 1 mm, that of the breast 2 mm, for the lung and the prostate it reaches 3 mm, the metastases of gastrointestinal tumors and kidneys are

4 mm [7]. The MRI clearly shows the choroidal masses which are in iso signal T1, in iso signal / intermediate signal T2 with enhancement after injection of gadolinium. It is necessary before starting radiotherapy to confirm or deny the presence of brain metastases. However, ocular CT does not allow analysis of the choroid and therefore screening for choroidal metastases. Fluorescein angiography is characteristic, metastases appear hypo fluorescent early in life, and become progressively hyper fluorescent in late stages [8]. Optical coherence tomography (OCT) shows sub-tumoral serous detachment. Retinal biopsies are often not achieved by their difficulty and the risk of retinal tear [6].

The differential diagnosis arises mainly with choroidal melanomas, hemangiomas, osteomas and calcifications of the choroid [5].

Treatment is usually based on radio-chemotherapy for the primary cancer. Treatment of symptomatic choroidal metastases should be conservative as much as possible in order to preserve the short-term quality of life. Radiation therapy can include metastatic sites in the field of irradiation; it consists of irradiation of the orbit by lateral fields at a dose between 30 and 40 Gy.

The protocol varies depending on the origin of the primary cancer. It is based on cyclophosphamide and methotrexate. As for hormone therapy, it is effective on hormone-sensitive cancer, namely breast and prostate [9].

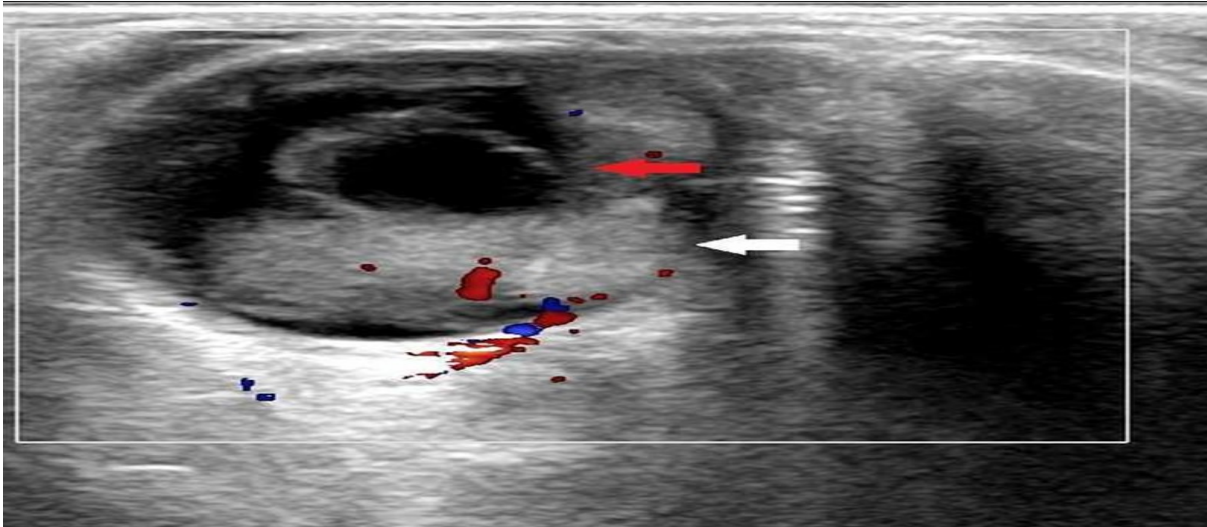


Figure 1:- Axial ultrasound view of the orbit showing an upper choroidal mass bilobed, isoechogenic, with central vascularization on color Doppler (white arrow), associated with retinal detachment (red arrow).

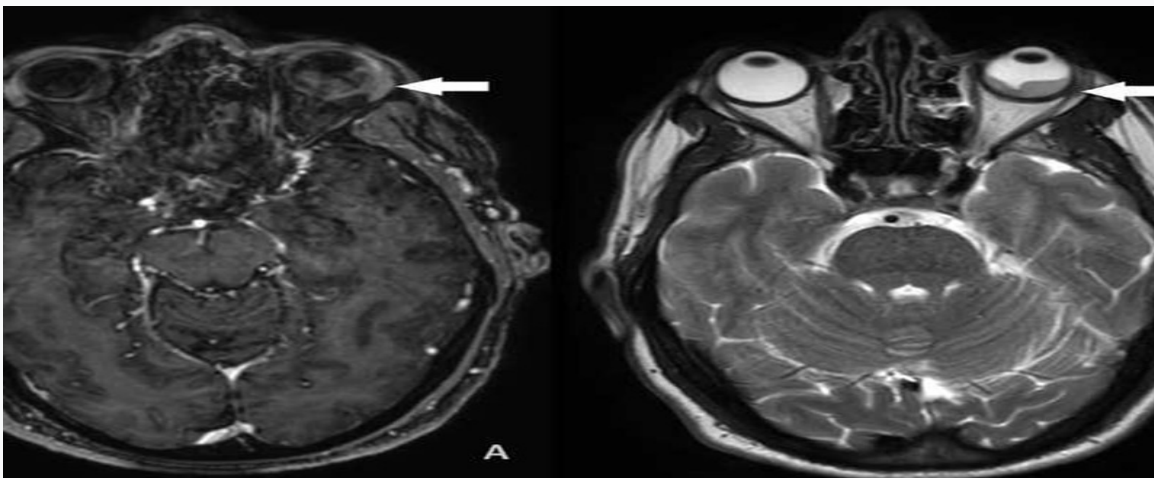


Figure 2:- MRI axial sections in sequence A (T1 + gado), B (T2) showing a process tissue of the posterior chamber of the left eye, as an intermediate T2 signal enhanced after Gadolinium injection (white arrow).

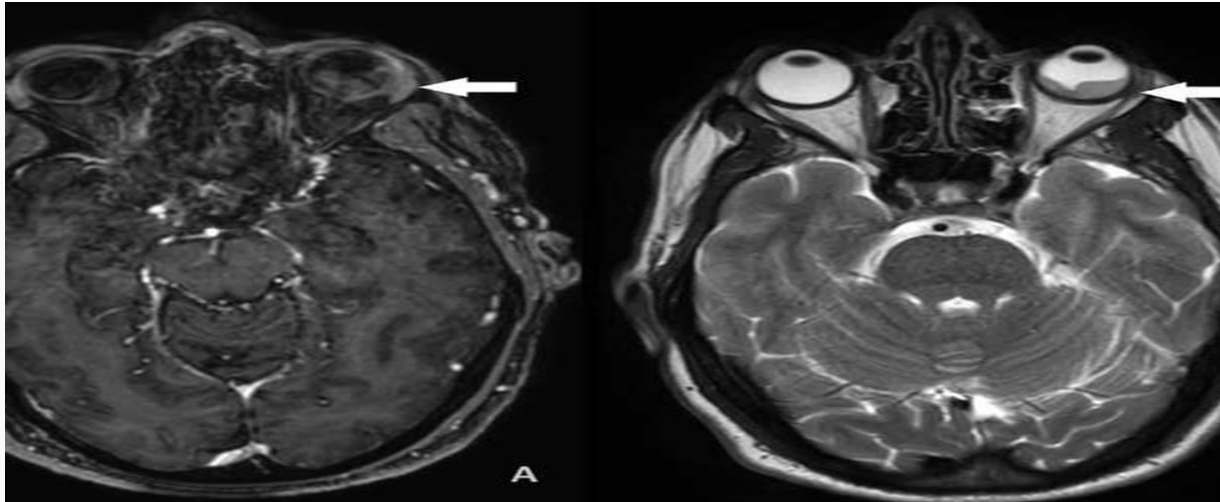


Figure 3:- Coronal MRI slices in sequence B (T1 + gado), A (T2) showing a process tissue of the posterior chamber of the left eye, as an intermediate T2 signal enhanced after Gadolinium injection (white arrow).

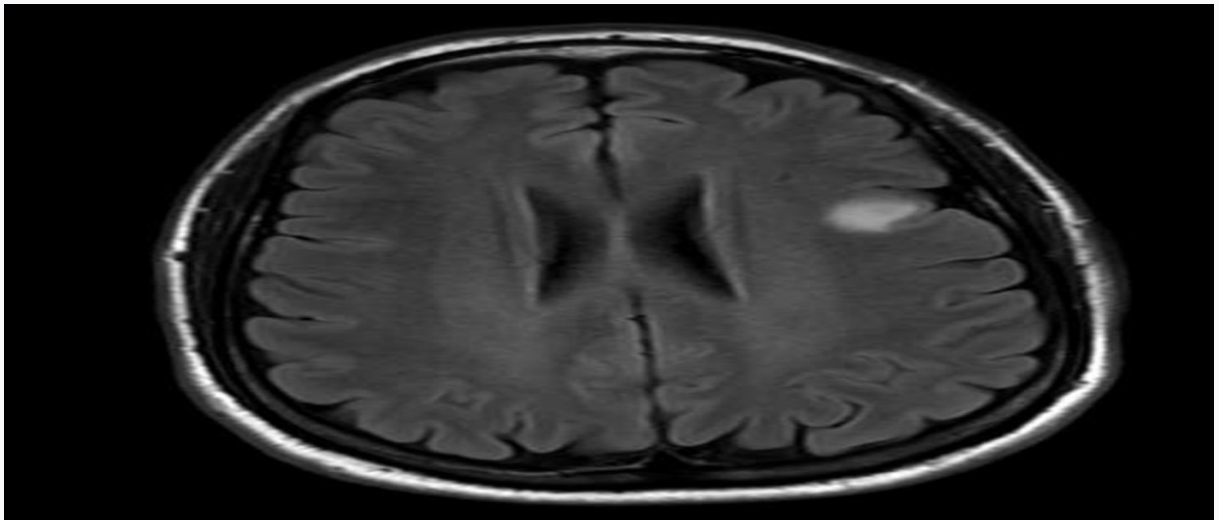


Figure 4:- Axial MRI slice in T2 Flair sequence showing a left temporal lesion rounded.



Figure 5:- CT scan in coronal reconstruction showing an upper lobe process left. (red arrow).

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