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The Mystery of Chorioretinal Lesions: A Revealing Case of Lung Cancer in a Woman

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Abstract

A 37-year-old woman presented with rapidly progressive visual loss in her left eye, initially diagnosed with uveitis. Further examination revealed choroidal metastases with no extraocular signs. Imaging confirmed a lung adenocarcinoma, leading to palliative chemotherapy and subsequent thoracic surgery. Prompt diagnosis and management are crucial for choroidal metastases, highlighting the importance of comprehensive ophthalmological evaluation in patients with visual disturbances.

Keywords: metastases,chorioretinal,tumor,lung

Introduction

Chorioretinal metastases, which may precede the discovery of a primary tumor, are rare. Diagnosis remains difficult and often delayed, and is evoked only after eliminating an ophthalmological diagnosis, especially if the involvement is not associated with extraocular signs.

Case presentation :

This is a 37-year-old woman with no previous history. She presented with a 3-month history of rapidly progressive visual acuity loss in the left eye, associated with asthenia and right axillary adenopathy with intractable headache. Treated as an outpatient for uveitis for 2 months, she was initially treated with systemic therapy.

Ophthalmological examination showed visual acuity at OD 10/10, OG counts fingers by 2m, anterior segment normal, hyalitis at 2 crosses, fundus yellowish lesion poorly limited, deep in the retina, WITH a serous retinal detachment associated with exudates, subretinal and retinal hemorrhages, the papilla was normal (figure 1). The right eye, anterior segment and fundus were unremarkable.

Retinal angiography revealed the presence of hyperfluorescent images of increasing intensity, with the appearance of several points in the arteriovenous stages, followed by diffusion and hyperfluorescence in the late stages (figure 2).

L oct showed a mean central thickness of 430 with retinal serous detachment (figure 3).

Brain MRI revealed a posterior temporal choroidal lesional process of the left eyeball in T1 isosignal, T2 hyposignal intensely enhanced after contrast injection(figure 4). The optic nerve and right muscles are not invaded.

Ultrasound of the left eye confirmed the presence of a hypoechoic temporal choroidal mass with retinal serous detachment.

General examination revealed a firm 4.5cm right axillary adenopathy with no inflammatory signs; the rest of the examination was normal.

An axillary biopsy was performed, which indicated metastasis of a papillary adenocarcinoma originating in the thyroid or lung.

A general workup was carried out in search of the primary site and other tumor locations: CBC, ESR, ionogram, phosphocalcic and liver function tests were normal.

A radiological work-up was objective: the thoracic CT scan showed a huge malignant tumor process in the right upper lobe, associated with homolateral pulmonary parenchymal micronodules and right medial and axillary adenopathies (figure 5). The abdomino-pelvic and brain CT scans were without abnormality. Bone scintigraphy revealed no secondary bone localization (FIGURE 6). Thyroid ultrasound was normal, with no glandular abnormalities.

The patient was referred to radiologists for echoguide biopsy of the lung mass, the anatomopathological and immunohistochemical examination of which was in favor of pulmonary adenocarcinoma. Mutation tests for epidermal growth factor receptor (EGFR), anaplastic large-cell lymphoma kinase (ALK) and Programmed death-ligand 1 (PDL1) were negative.

The patient was referred to the oncology department for management after a multidisciplinary meeting (RCP) between oncologists and radiotherapists. Palliative chemotherapy with paclitaxel 175 mg/m2/day and carboplatin AUC5 was indicated.

After three months, the lung mass persisted, the ophthalmic involvement regressed and the visual acuity improved to 6/10. The patient underwent thoracic surgery for lobectomy with lymph node dissection, followed by radiotherapy. The patient is still followed in oncology.

Figures

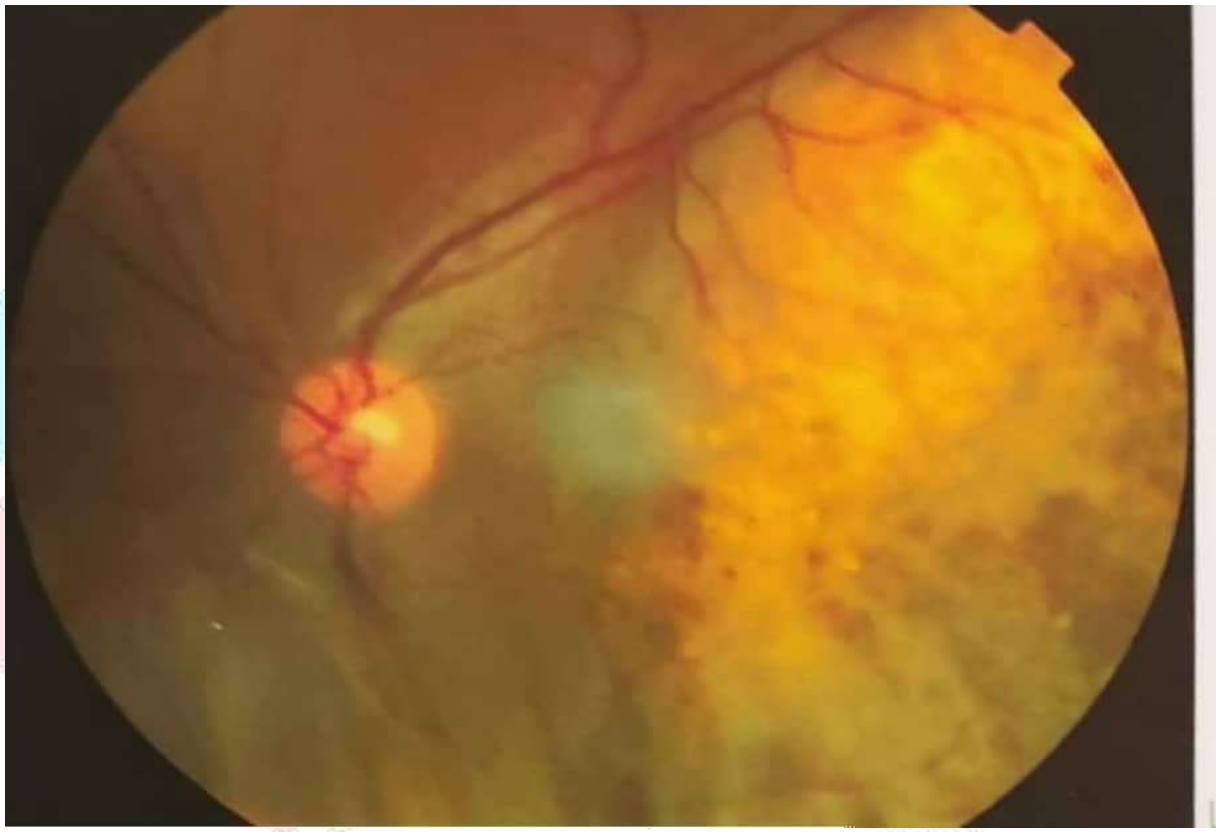

Figure 1: Fundus image shows: a yellowish, poorly defined lesion deep in the retina.

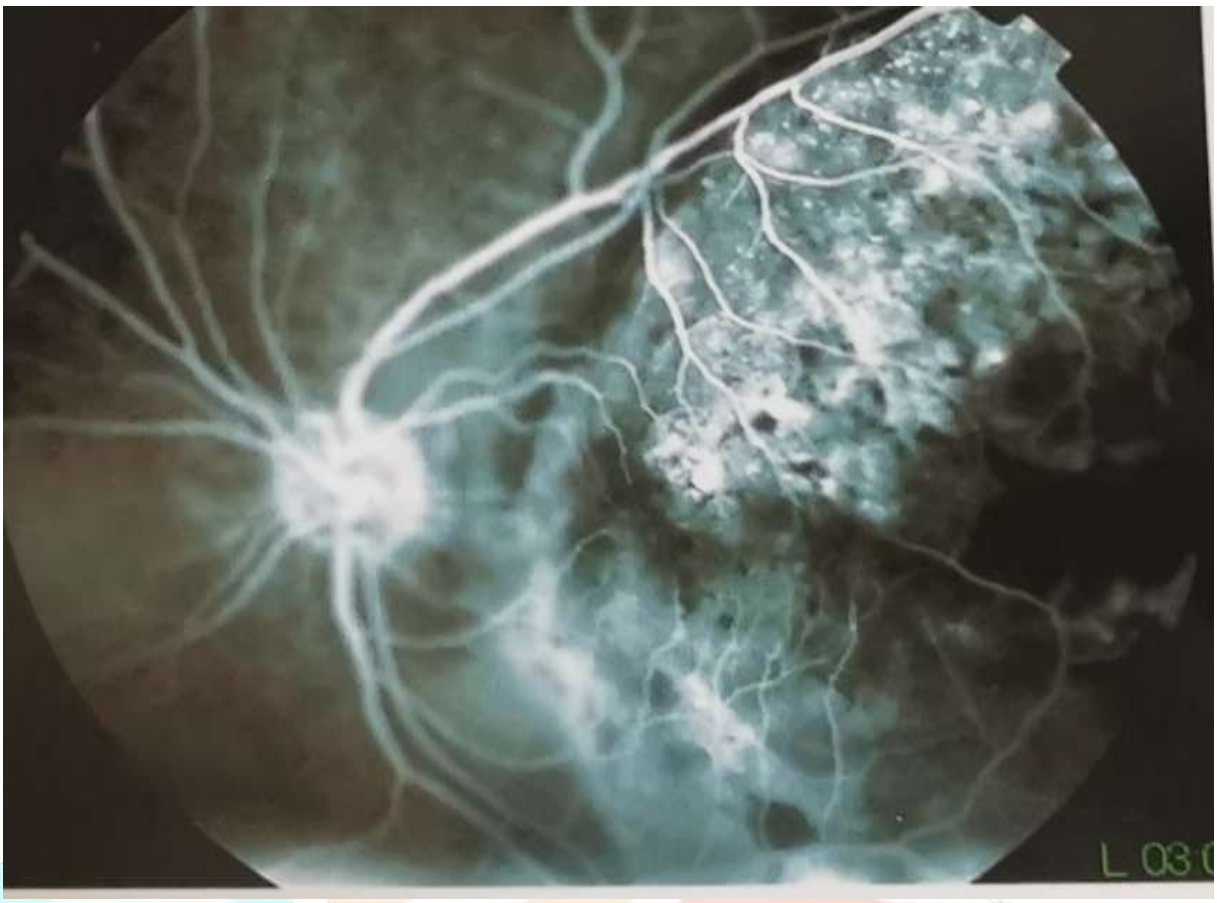

Figure 2: Retinal angiography shows hyperfluorescent images increasing in intensity and hyperfluorescence in late stages

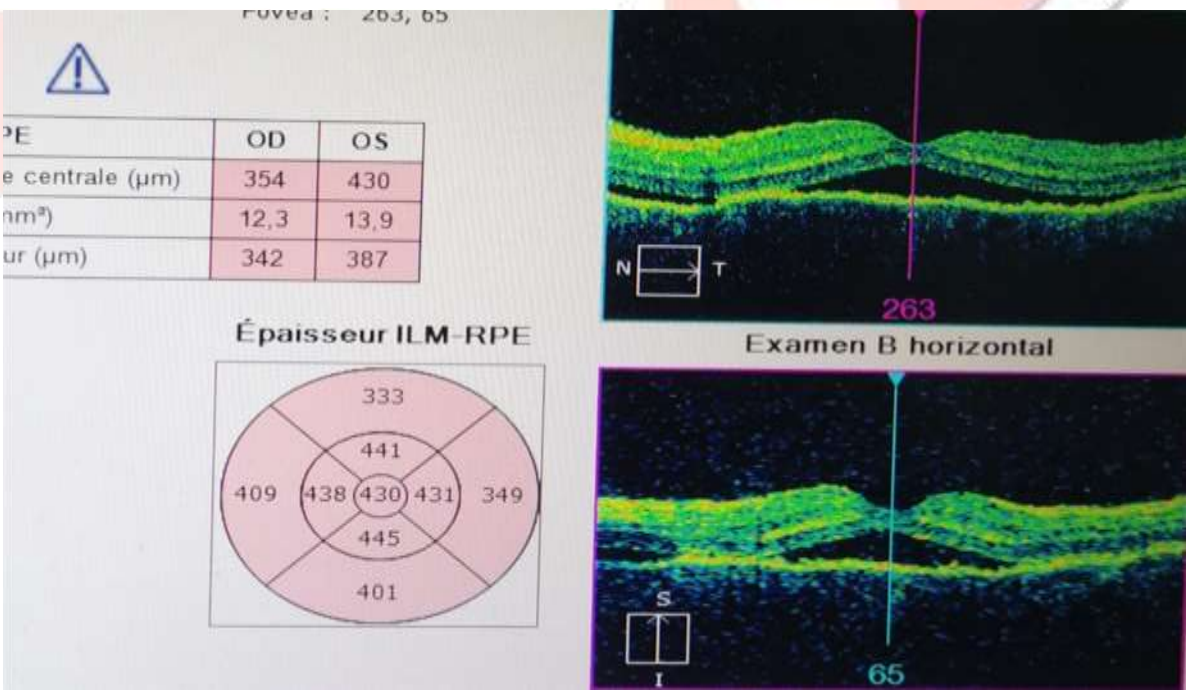

Figure 3: OCT shows retinal serous detachment

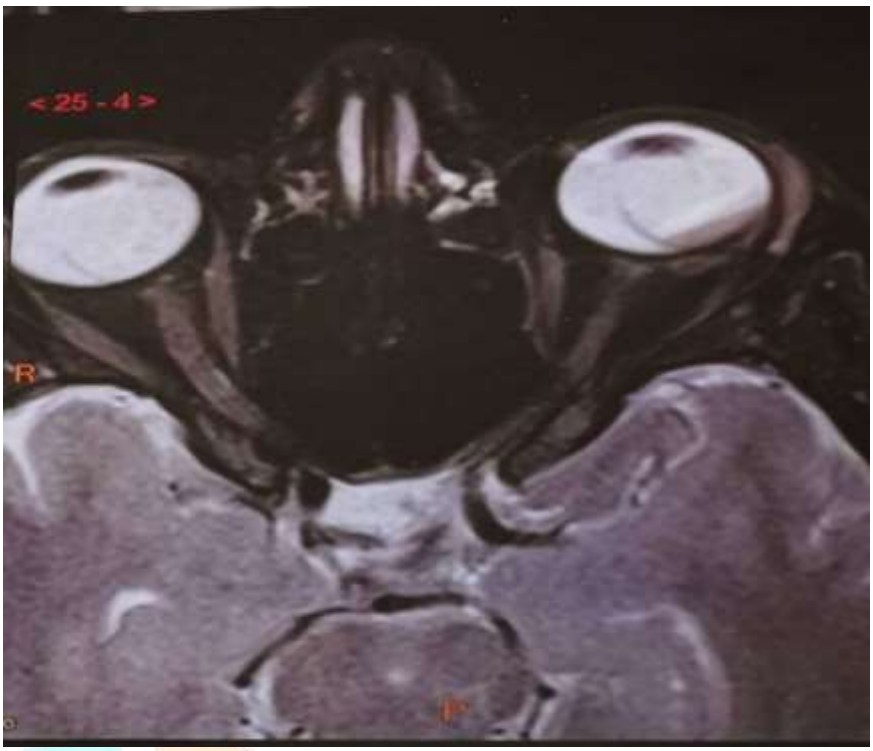

Figure 4: Posterior temporal choroidal lesion process

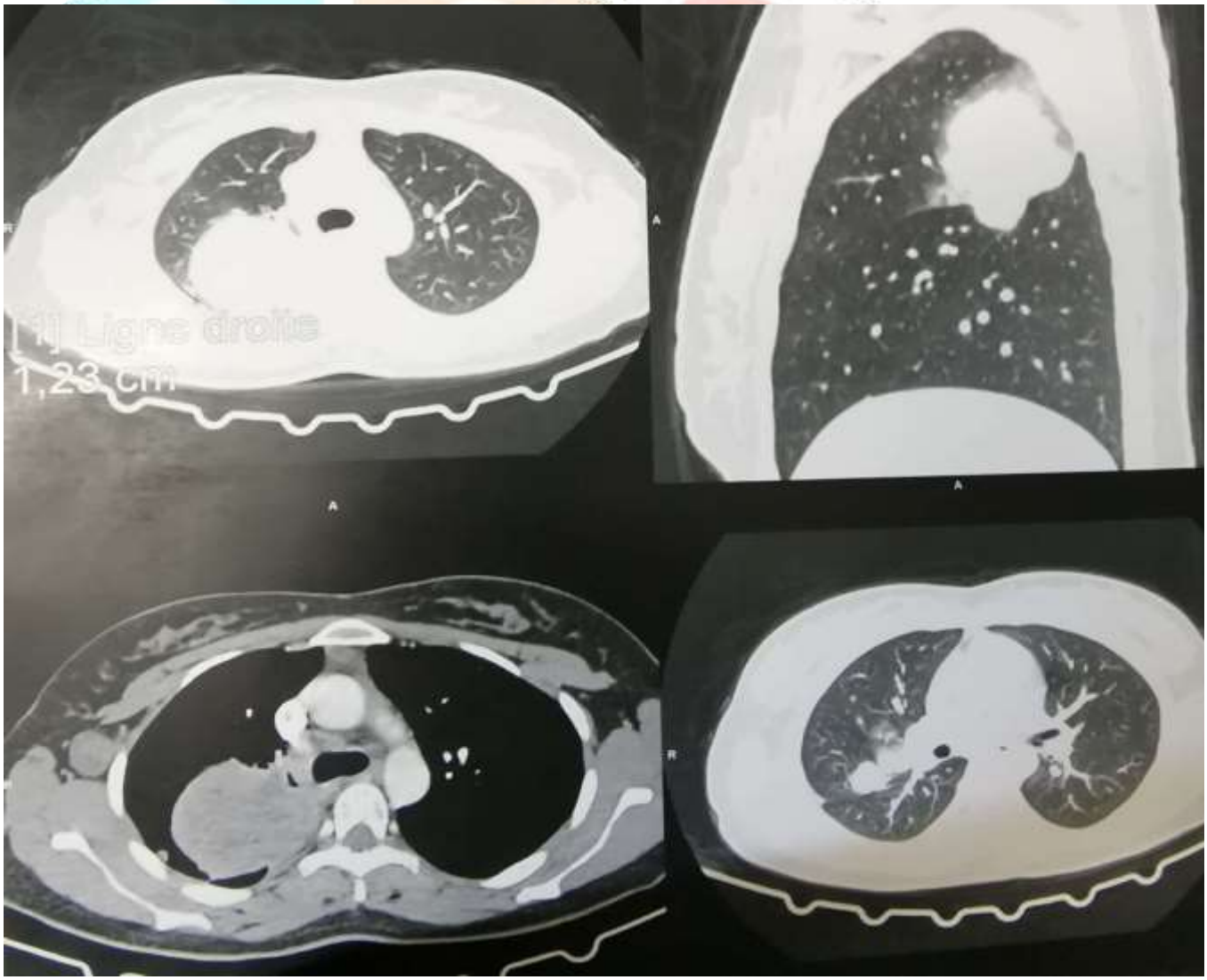

Figure 5: Tumor process in the right upper lobe associated with homolateral lung parenchymal micronodules

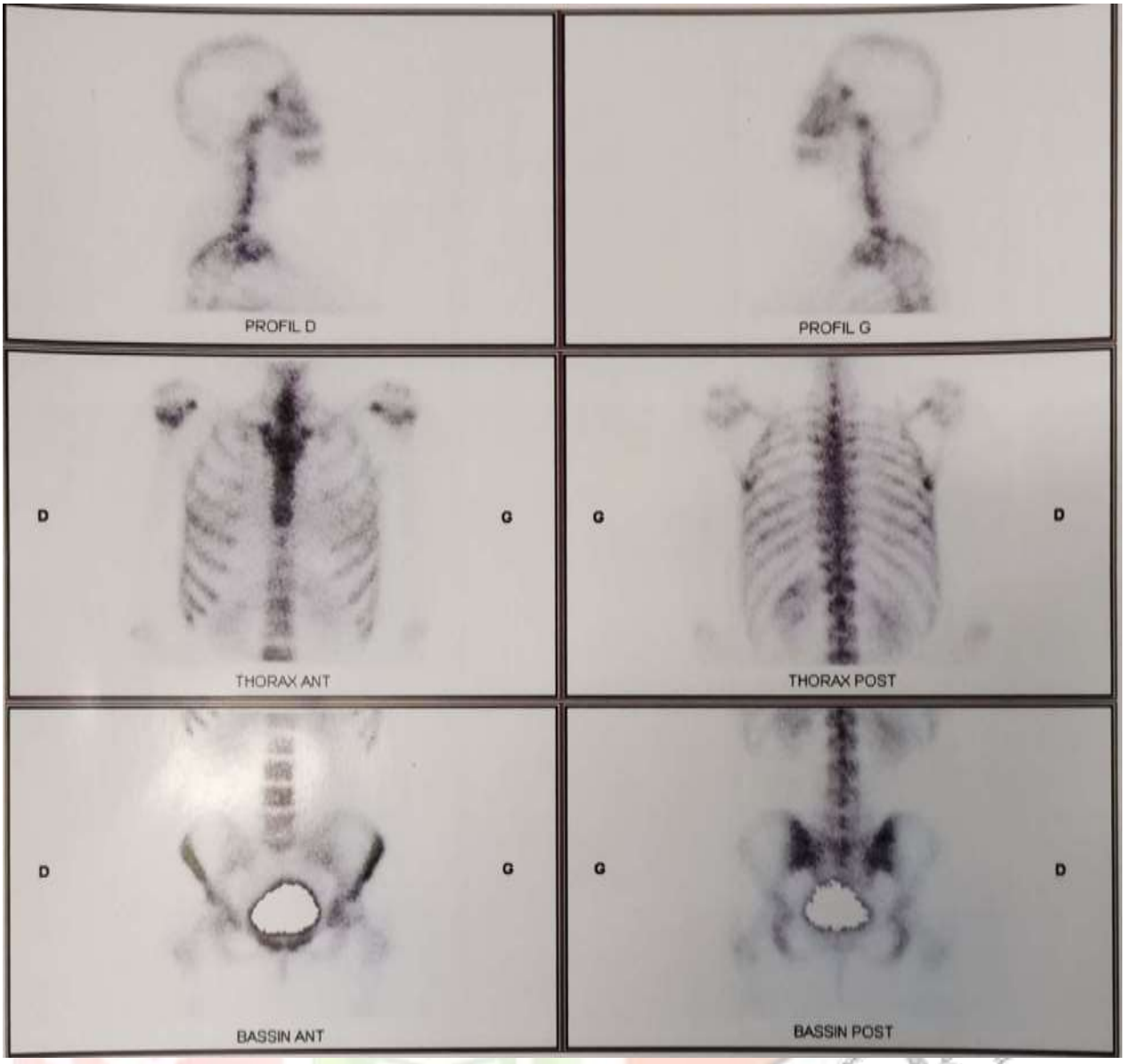

Figure 6: Normal bone scintigraphy

Discussion

The diagnosis of a primary tumor by the discovery of chororetinal metastases remains exceptional (1) as in our case. The choroid is the site most frequently affected by ocular metastases because of its high vascularity, being involved in 88% of cases, while involvement of the iris and ciliary body is less frequent. Isolated involvement of the retina, optic disc or vitreous is extremely rare (2).

Breast cancer is the main cause of choroidal metastases in women, while bronchopulmonary tumors predominate in men (3). However, in our patient's case, a reverse situation was observed, which is rare.

Magnetic resonance imaging (MRI) remains the most sensitive and specific examination for the diagnosis of choroidal metastases (4), as in our case.

Treatment of choroidal metastases depends on a number of factors, including the patient's immune status, the number of metastases, their location, and whether they are unilateral or bilateral.

External radiotherapy is the most commonly proposed treatment for choroidal metastases, although brachytherapy, transpupillary thermotherapy and intravitreal or systemic chemotherapy are sometimes indicated (5).

Studies report that metastatic lesions may respond to systemic chemotherapy, which may reduce the need for local radiotherapy (6)(7), as in our patient's case.

A complete bilateral ophthalmological examination of patients with tumours in search of choroidal metastases should be carried out systematically in the presence of any visual disturbance, and choroidal metastases should be considered in the presence of any inflammation resistant to treatment, as in the case of our patient, even in the absence of clinical signs in subjects at risk.

Conclusion:

Choroidal metastases have a poor functional and vital prognosis, and rapid diagnosis in search of the primary site is essential for early management.

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