

**PALPEBRAL METASTASIS OF BREAST CANCER. A CASE REPORT AND LITERATURE REVIEW**

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**INTRODUCTION**

Ocular metastases (OM) have become less rare since systemic treatments for certain cancers can prolong patient survival. The cancers most frequently involved are breast cancers, for which the incidence of ophthalmic localizations is estimated by some authors to be 30%, with a prevalence of 11,000 cases per year in the United States. We report the case of a patient with palpebral metastasis of breast cancer.

**OBSERVATION**

52 year old patient with antecedent an operated retinal detachment, which presented a left breast nodule. The biopsy was in favor of infiltrating breast carcinoma with no other SBR grade II specificity. The extension assessment made normal lung radiography, abdominal ultrasonography and bone scintigraphy. The patient underwent a left mastectomy with axillary dissection. The pathological examination was in favor of an infiltrating breast carcinoma measuring 2 cm long axis, grade III SBR with minimal intracellular component of high grade and vascular emboli. Axillary dissection was in favor of 5 N + / 20N with capsular intrusion. Hormonal receptors were positive (95% estrogen receptors, 40% progesterone receptors). The Hercept Test was negative. Then, the patient received 6 courses of adjuvant chemotherapy, radiotherapy on the left wall (42 Gray) and on the supraclavicular area (42 Gray), followed by hormonotherapy. The patient was in good control for 3 years. Then she presented a small tumefaction in the upper left eyelid. Magnetic resonance imaging revealed a mass centered on the left lacrimal gland with ipsilateral frontotemporal pachymeningeal thickening without bone defects in the lateral wall of the orbit. The biopsy was in favor of a carcinomatous malignant cell proliferation compatible with a metastasis of breast carcinoma. Hormonal receptors were positive (95% estrogenic receptors, 2% progesterone receptors), the Hercept test was negative.

The CT scan was in favor of osteocondensation lesions in the thoracolumbar vertebrae, the iliac and sternal bones. The bone scintigraphy confirmed the presence of diffuse bone metastases (skull, shoulders, sternum, spine

and femur). The patient was put on weekly Paclitaxel. The blood count showed thrombocytopenia at 80000 / mm<sup>3</sup> then 69000 confirmed by citrate tube sampling. The osteomedullary biopsy was in favor of an osteomedullary location of a poorly differentiated carcinoma that could be compatible with a mammary origin. Unfortunately, the patient was able to benefit from only one course of Paclitaxel, she was put on antiaromatase. Faced with the increase of palpebral tumefaction, radiotherapy was indicated. The patient died a few days before the start of radiotherapy. The delay between the appearance of metastasis and death was 5 months.



## DISCUSSION

The palpebral metastases of breast cancer rarely occur but such cases have been recognized and reported previously. In 1970, Riley published a series of 15 patients with metastatic palpebral tumors, six of which originated from the mammary gland.<sup>[1]</sup> Another series of 13 cases with metastatic breast cancer in the eyelids was reported by Hood et al in 1973.<sup>[2]</sup> In addition, a number of individually reported cases contribute to a total of at least 39 registered cases.<sup>[3-4]</sup>

Palpebral metastases usually occur several years after the detection of the primary breast tumor, with the interval being between 6 months and 15 years. In almost all cases, palpebral metastases are only part of a generalized carcinomatosis with dissemination of neoplasm to the viscera, bones, lymph nodes and skin. Rarely, the appearance of eyelid metastases may precede the diagnosis of a primary breast tumor.<sup>[2-5]</sup>

The cancers most frequently responsible for ocular metastases are in order of decreasing frequency: breast cancers (39.7%), bronchial cancers (29.5%) and adenocarcinomas of unknown primitive (18.3%) according to Ferry on a series of 227 cases.<sup>[6]</sup> In women, breast cancer is the most frequently found (77%) followed by bronchial cancer (11.2%), while in men, the primary site is most often bronchial cancer (49%).

Various causes may explain the high frequency of breast cancer metastases in the eye: relatively long survival time,<sup>[7-8]</sup> existence of the only pulmonary filter, more marked tendency to the production of metastases.<sup>[7]</sup> But why do lung cancers give so few ocular metastases and so many brain metastases, and why does breast carcinoma have a special preference for the choroid? Immunological phenomena are thought to play a role.

The average age of discovery of ocular metastasis is 52 years.<sup>[6]</sup> These metastases occur most often in polymetastatic patients with pulmonary metastases in 87% of cases.<sup>[9]</sup>

More rarely, in 12 to 31% of cases, ocular metastases are indicative of metastatic evolution. Overall, the most common signs of ocular metastases are the decline in visual acuity (80% cases), pain (22.5% of cases), exophthalmia (11% of cases) or detachment of retina (11% of cases). The clinical presentation depends on the location of the metastasis.

The most common clinical presentations of palpebral metastases are those of an indurated plaque around the eye characteristic of breast cancer, a solitary cutaneous nodule usually seen with malignant melanoma and an ulcer nodule described with squamous cell carcinoma.<sup>[1]</sup>

Tests for intraocular tumor diagnosis include orbital ultrasonography, fluorescein angiography, CT and MRI.<sup>[10]</sup> MRI is the technique of choice in the diagnosis

and evaluation of local extra-osseous extension of ocular metastases. It allows the detection of very small metastases and distinguishes the choroidal tumor from the retinal detachment that may be associated with it. MRI also allows visualization of the tumor in several planes of space.

Although chemotherapy corresponds to the logical treatment of metastatic tumor disease as a whole, it is frequently insufficient to obtain a tumor reduction alone that can allow a rapid functional recovery of the affected eye. Some authors, however, have shown an objective efficacy of chemotherapy in some patients.<sup>[11-12]</sup> When the metastasis is superficial and small (lacrimal glands, eyelids), contact radiotherapy with 50 to 100 kV rays is indicated. The dose varies between 3 and 5 Gy per session. Two to three sessions are performed per week. The total dose is 30 Gy. The epithelitis is frequent and sometimes severe but heals without sequelae. Overall, radiotherapy alone can achieve a decrease in tumor volume, recovery of visual acuity in 72-94% of cases, improvement of retinal detachment, and prevention of secondary glaucoma and pain.<sup>[13-14]</sup>

Patient survival is related to the prognosis of the primary tumor and not to the diagnosis of ophthalmic metastasis.<sup>[15-16]</sup> The average overall survival after the diagnosis of ophthalmic metastasis is between 6 and 17 months. Patients with ophthalmic breast cancer metastases appear to have a higher overall survival than other patients with other primary tumors, up to 32 months according to some authors.<sup>[17]</sup> This advantage seems to be related to the progress made by chemotherapy and hormonotherapy in the treatment of metastatic breast cancer.

## CONCLUSION

Ophthalmic metastases are common, though little known. The presence of visual disturbances, ocular pain or exophthalmos should seek, in a patient who has been treated for cancer, the presence of ophthalmic metastases. The existence of an ophthalmic metastasis, especially in the case of breast cancer, does not change the prognosis but can significantly degrade the quality of life of patients. Local treatment is based on radiotherapy, which in early treated forms improves symptomatology in more than 70% of cases.

### Competing interests

The authors have declared that no competing interest exists.

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### Ethical Approval

Ethics Committee of the National institute of Oncology, Mohammed 5 University, Rabat, Morocco.

**Consent**

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

**Author's contributions**

MY drafted the manuscript and all authors read and approved the final manuscript.

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