

Cardiac and Brain Late Metastases of Choroidal Melanoma: Case of Young 35 Years Old Patient

Sasbou Lamyae^{1*}, Berrouine Soukaina¹, Elgaddar Fatima zahra¹, Radi Fatimazohra¹, Asfalou Ilyass¹, Lakhel Zouhair¹, Tanz Rachid², Allaoui Mohammed³

¹Medical cardiology Department, Mohammed V Military Teaching Hospital, Mohamed V University, Rabat Morocco

²Medical Oncology Department, Mohammed V Military Teaching Hospital, Mohamed V University, Rabat Morocco

³Anatomopathology Department, Mohammed V Military Teaching Hospital, Mohamed V University, Rabat Morocco

*Corresponding author

Sasbou Lamyae

Article History

Received: 02.09.2018

Accepted: 08.09.2018

Published: 30.09.2018

DOI:

10.36347/sjmcr.2018.v06i09.010



Abstract: Cardiac metastases are much more common than primary cardiac malignant tumors as reported in the literature. Choroidal melanoma is a very aggressive type of tumor. "If you are newly diagnosed with a primary choroidal 'intraocular' melanoma, you are likely to have no signs or symptoms of metastatic melanoma. Even with total body PET/CT imaging, less than 4% of patients are found to have their melanomas spread to other parts of their body at the time of diagnosis of their eye tumor. Uveal melanoma is the most common primary intraocular malignancy in adults. It is associated with a high rate of distant tumor spread and consequent mortality.

Keywords: Choroidal melanoma; brain and cardiac metastasis; hematological spreading of the neoplasm; echocardiography and CMR; surgical excisions; radiotherapy.

INTRODUCTION

Cardiac metastases are much more common than primary cardiac malignant tumors as reported in the literature [1]. Choroidal melanoma, known as one of the most common primary intra-ocular malignant tumor has the liver as his number one site of metastases, the cardiac metastases of melanoma are rare and often clinically under-diagnosed. Of all the patients who died of disseminated uveal melanoma, macroscopic cardiac metastasis was discovered in 19% to 24% during autopsy [2]. Brain metastases are also very rare and they usually appear after or concomitant with liver metastases [3].

We report the case of a combined heart and brain metastasis occurring 12 years after choroidal melanoma treatment.

CASE REPORT

A 35-year-old female patient is admitted with a recent history of intense headache, shortness of breath and palpitations.

She had been operated for a localized choroidal melanoma 12 years ago. The surgical procedure involved enucleation of the right eye.

Cardio-vascular and neurologic exam was normal

Cerebral CT scan and MRI revealed right temporal, right frontal, and left parietal lesions that appeared hyperdense, measuring respectively 15x11, 6mm, 10x8mm and 39x30mm.

Transthoracic echocardiography shows left ventricular mass measuring 28 x 15mm. the mass was

mobile polylobed, with a large base in the lateral wall of the LV.

Cardiac MRI shows rounded mobile mass measuring 21*15mm iso signal T1, T2, T2 fatsat, fixed to the antero lateral wall (figure 3).

CT scan of the abdomen and the pelvis did not demonstrate others suspected metastasis. The patient underwent surgical resection of cerebral tumors. Histological exam of the lesion confirmed metastatic melanoma of the brain.

In view of the significant morbidity, the high risk of complications and the patient's physical condition, it was decided not to perform cardiac surgery.

Complementary cerebral radiotherapy was performed

A thoracic-abdominal-pelvic CT scan performed after shows widespread metastasization,

particularly in the brain and abdominal cavity. Other radiotherapy and chemotherapy sessions was scheduled.

The patient died 9 months after diagnosis.

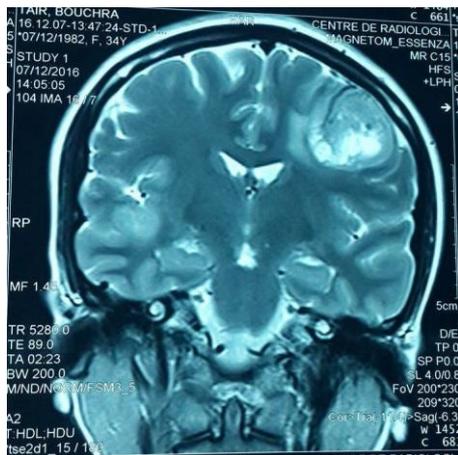


Fig-1: T1-weighted image (contrast-enhanced) demonstrating a hyper intense left frontal lobe lesion

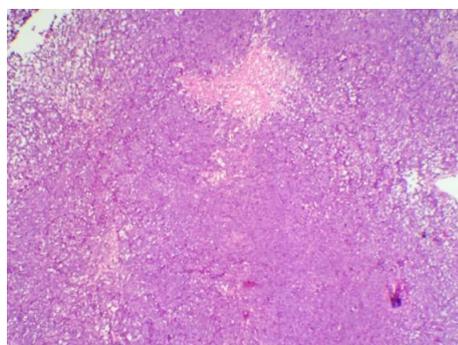


Fig-2: High grade spindle and epithelioid cells proliferation (x200), Immunohistochemical stain positive for HMB45.

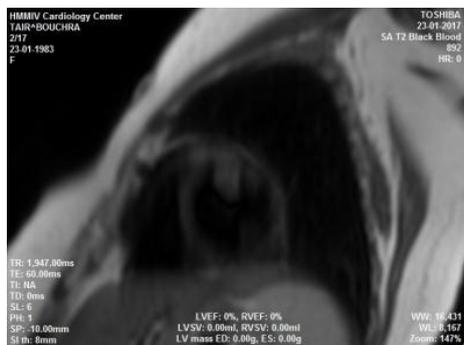


Fig-3: The mass had a well-demarcated homogeneous appearance with, isointense signal intensity at T1, T2 and T2 Fastsat weighted imaging

DISCUSSION

Choroidal melanoma is a very aggressive type of tumor. "If you are newly diagnosed with a primary choroidal 'intraocular' melanoma, you are likely to have no signs or symptoms of metastatic melanoma. Even with total body PET/CT imaging, less than 4% of patients are found to have their melanomas spread to other parts of their body at the time of diagnosis of their eye tumor. But, many more will be found to have metastasis over the following years. This is because

there is no test that can find microscopic metastatic tumors"[4].

And because the eye does not have a lymphatic device system, the tumoral cells disseminate via the blood system. Metastases appear initially in the liver in more than 90% of the cases and, much more rarely, in bone, lungs, skin, brain or other organs [5].

We present a case of very late cardiac and brain metastasis (within 12 years of completion of

initial treatment) from choroidal melanoma. There are some studies which showed metastasis developed after a short and long disease free interval.

Cardiac metastasis almost never involves the initial presentation, but is mostly present after haematological spreading of the neoplasm and can appear in all four heart chambers [6]. The right atrium is mostly involved. Melanotic metastasis can involve the pericardium and myocardium but the endocardial layer is rarely affected.

Metastatic cardiac melanoma is often clinically silent and signs and symptoms are typically non-specific: dyspnoea, pedal oedema, cough, tachycardia, and dysrhythmia and chest pain

The first approach is often echocardiography. CT and CMR may highlight some important imaging findings. CT is generally used for total body staging, but some findings can lead to the diagnosis of metastatic melanoma. Also CMR has a better contrast resolution that allows a more accurate tissue characterization of the aetiology of cardiac and pericardial masses [7].

Management of metastatic melanoma includes surgery of the affected organ, radiotherapy, palliative chemotherapy, immunotherapies such as ipilimumab, tremelimumab, interferon- α or interferon- γ and treatment of symptoms depending on the affected organ.

Successful palliative excisions have been described in several case reports and can prevent complications such as heart failure due to inflow and outflow obstruction of the heart chambers [8].

Brain metastases from melanoma are relatively rare (2–5% of all brain metastases) and they are associated with poor prognosis, with life expectancy being less than 1 year. Metastatic melanoma to the brain is characteristically multi-focal and can be hemorrhagic. The treatment for solitary lesions is the combination of surgical excision and radiotherapy [9].

CONCLUSION

Uveal melanoma is the most common primary intraocular malignancy in adults. It is associated with a high rate of distant tumor spread and consequent mortality.

Despite improvement in local control of this tumor, roughly 50% of patients develop metastatic disease within 15 years.

Although cardiac metastasis are rarely diagnosed because of the lack of symptoms. A multimodality approach may help to obtain a more

timely diagnosis and in some cases a quicker and better diagnosis can enable a surgical resection to prevent cardiac failure or to reduce the tumor before chemotherapy.

REFERENCES

1. Bell DJ, Wilson WM. Choroidal melanoma: natural history and management options. *Cancer Control* 2004;11(5):296-303
2. Midena E, de Belvis V, Dei Tos AP, Antonini C. Isolated brain metastasis of malignant choroidal melanoma 27 years after enucleation. *Arch Ophthalmol.* 1999; 117:1553–6.
3. Kearns C, Boyer S, Gay D. Two differing presentations, treatments, and outcomes of malignant choroidal melanoma. *Optometry.* 2008; 79:365–70.
4. Available from: <http://www.eyecancer.com/conditions/30/metastatic-choroidal-melanoma> [Last accessed on 2015 May 13].
5. Filippo Del Bene, Marie Schoumacher, Raymond Barnhill, Claire Lugassy investigating the role of BAP1 in uveal melanoma progression via angiotropism and extravascular metastasis *Institut Curie* 2016, <http://curie.fr/actualites/melanome-choroide-comment-se-forment-metastases-006976>
6. Cheruvu B, Cheruvu P, Boyars M. An unusual case of metastasis to the left side of the heart: a case report. *Journal of medical case reports.* 2011 Dec;5(1):23.
7. Villa A, Eshja E, Dallavalle S, Bassi EM, Turco A. Cardiac metastases of melanoma as first manifestation of the disease. *Journal of radiology case reports.* 2014 Apr;8(4):8.
8. Onan B, Onan IS, Polat B. Surgical resection of solitary metastasis of malignant melanoma to the right atrium. *Texas Heart Institute Journal.* 2010;37(5):598.
9. Danilo OD, Matis GK, Costa LF, Kitamura MA, Júnior EV, Barbosa BJ, Santiago IB, Silva TI, de PA Silva FQ, Pereira CU, Azevedo Filho HR. Ocular melanoma: Keep your eyes open for late brain metastases. *Surgical neurology international.* 2011;2.