

THE MRI FINDINGS OF IRIS METASTASIS IN PATIENTS WITH BREAST CANCER

Hasan Mutlu¹, Zeki Akça², Abdullah Büyükçelik³, Mustafa Öztürk⁴, Mustafa Taşdemir⁵, Alper Kubilay Yazıcıoğlu⁵, Bünyamin Kaplan⁶, Kadir Uçar⁷

Department of Medical Oncology, Acıbadem Kayseri Hospital, Kayseri, Turkey¹

Department of Radiation Oncology, Mersin Government Hospital, Mersin, Turkey²

Department of Internal Medicine, Acıbadem University School of Medicine, Istanbul, Turkey³

Department of Radiology, Erciyes University, Kayseri, Turkey⁴

Department of Radiology, Acıbadem Kayseri Hospital, Kayseri, Turkey⁵

Department of Radiation Oncology, Erciyes University, Kayseri, Turkey⁶

Department of Radiation Oncology, Acıbadem Kayseri Hospital, Kayseri, Turkey⁷

Corresponding author: Hasan Mutlu, MD. Acıbadem Kayseri Hospital, Department of Medical Oncology, Seyitgazi Mah, MKP Bulv., No:1 1-A, Melikgazi, Kayseri, 38000, Turkey. Tel: +905326958357, Fax: +903523207313, E-mail:doktorhasanmutlu@gmail.com.

Case report

ABSTRACT

Breast cancer and lung cancer are the most common tumors that metastasize to iris. The metastasis of iris was generally diagnosed on ophthalmologic examination. In this case, we reported iris metastasis of patients with adenocarcinoma of breast cancer and MRI findings. We report a case of a 51-year-old. She was diagnosed breast cancer two years

ago. After adjuvant chemotherapy, radiotherapy and trastuzumab, she was admitted to hospital with the complaints of headache on February 2012. The magnetic resonance imaging (MRI) revealed multiple brain metastasis. Whole brain radiotherapy and palliative chemotherapy were applied to the patients. In follow-up, on ophthalmologic examination, there was a solid lesion on iris. The orbital MRI was performed and it revealed the thickness

on iris of left eye. After diagnostic procedure final pathological review reported that invasive ductal carcinoma metastasis. Iris metastasis may be considered by MRI findings following: The thickness on iris and contrast enhanced lesion. This reason may be resulted that the fine needle aspiration biopsy for diagnosis of iris metastasis is not need.

Keywords: Iris, metastasis, breast cancer, magnetic resonance

1. INTRODUCTION

The most common malignancy of eye is intraocular metastasis and iris is relatively rare as a first metastatic site (1). It was reported that breast cancer (1), prostate cancer (2), adenoid cystic carcinoma of parotid gland (3), lung cancer (4), merkel cell carcinoma (5), esophageal adenocarcinoma (6), gastric cancer (7), endometrial cancer (8), Ewing sarcoma (9) and cervical cancer (10) metastasized to iris.

The most common cancer type are the breast cancer in women. Breast cancer generally metastasizes to bone, lung, liver and brain. Breast cancer and lung cancer are the most common tumors that metastasize to iris (11). The metastasis of iris was generally diagnosed on ophthalmologic examination. In this case, we reported MRI findings of metastasis of iris in patients with breast cancer.

2. CASE REPORT

We report a case of a 51-year-old. She was diagnosed breast cancer two years ago. She was postmenopausal. Histological type was invasive ductal carcinoma and tumor was T2N2M0 and grade III. While estrogen and progesterone receptor status were negative, Her2/neu receptor status was (+++). After surgery (right modified radical mastectomy and auxiliary dissection) she has received adjuvant chemotherapy (TAC X 6) and trastuzumab for 52 weeks. After 18 months she was admitted to hospital with the complaints of headache on February 2012. On examination there was anisochoria.

The magnetic resonance imaging (MRI) revealed multiple brain metastasis. Also the bone scintigraphy revealed multiple bone metastasis. Whole brain radiotherapy was applied to the patients and then pal-

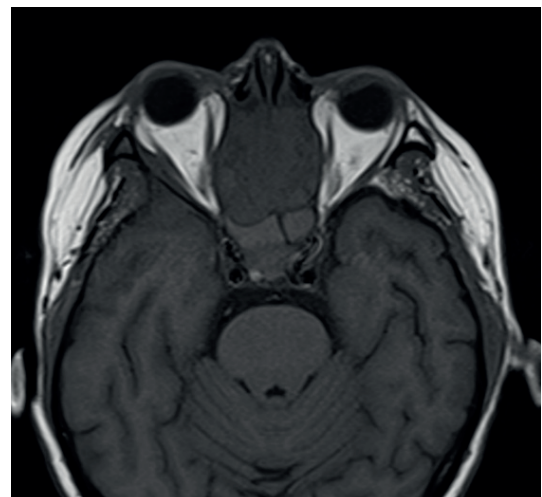


Figure 1. Precontrast imaging

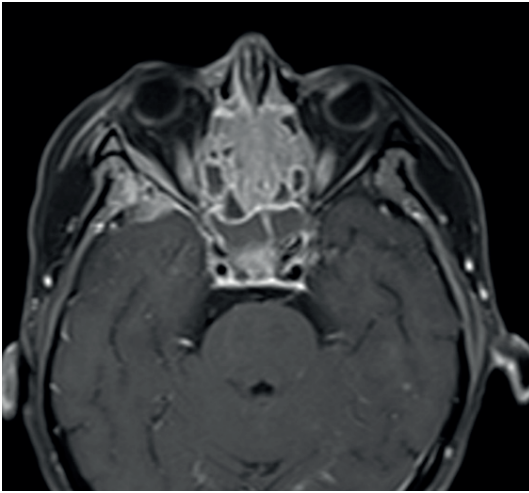


Figure 2. Postcontrast imaging

liative chemotherapy (capecitabine + lapatinib) was given. During this period, she was admitted to the hospital with the complaints of lesion on left eye. On ophthalmological examination, there was a solid lesion on iris. The orbital MRI was performed and it revealed the thickness on iris of left eye (Figure 1 (precontrast imaging) and Figure 2 (postcontrast imaging)). Then diagnostic procedure was performed and iris metastasis was diagnosed by fine needle aspiration biopsy. Final pathological review reported that invasive ductal carcinoma metastasis.

3. DISCUSSION

We reported that the patient with breast cancer metastasized to iris and its MRI findings. The patients had HER2 Like breast cancer. Although tumors with HER2 Like have worse prognosis and have high metastatic activity, HER2 targeted therapies have changed the outcome. Despite of optimally surgery and optimally adjuvant therapy aggressive therapy, recurrence was occur within two years.

A German study was reported that the prevalence of intraocular metastasis in metastatic breast cancer was 4.6% (12). It is most commonly located in the choroid. But the rate of intraocular metastasis was higher (10.8%) in patients with more than one organ (especially presence of lung and brain metastasis). It was reported that breast cancer with iris metastases has poor prognosis (1).

Iris metastasis of breast cancer was generally diagnosed by fine needle aspiration biopsy. In our case iris metastasis was strongly considered by ophthalmological examination and orbital MRI findings. Both of ophthalmological examination and orbital MRI findings may be enough for diagnosis of iris metastasis. This reason may be resulted that the fine needle aspiration biopsy for diagnosis of iris metastasis is not need. Iris metastasis may be considered by MRI findings following: The thickness on iris and contrast enhanced lesion.

In addition, it was seen bilateral ethmoidal metastasis on MRI. Considering both of iris and ethmoidal metastasis, these metastases of breast cancer may be accepted as a manifestation of aggressive clinical course and poor prognosis.

Conflict of interest: none declared

REFERENCES

1. Ozturk B, Buyukberber S, Coskun U, Yaman E, Yildiz R, Kaya AO, et al. Solitary iris metastasis from breast cancer with dramatic course: case report. *Med Oncol.* 2007;24(4):463-5.
2. Sarenac TS, Janicijevic-Petrovic MA,

3. Sreckovic SB, Radovanovic MR, Vulovic DD, Janicijevic KM. Prostatic carcinoma bilateral iris metastases. *Bosn J Basic Med Sci.* 2012 May;12(2):134-6.
4. Montero J, Shields CL, Bianciotto C, Shields JA, Ehya H. Iris metastasis from adenoid cystic carcinoma of parotid gland. *Cornea.* 2011 Mar;30(3):351-3.
5. Jurecka T, Skorkovská S, Coupková H, Postránecká V. Iris metastasis as the first sign of small-cell lung carcinoma with metastatic involvement of the mediastinum. *Klin Onkol.* 2009;22(4):179-82. Czech.
6. Kirwan C, Carney D, O'Keefe M. Merkel cell carcinoma metastasis to the iris in a 23 year old female. *Ir Med J.* 2009 Feb;102(2):53-4.
7. Lee WB, Sy HM, Filip DJ, Grossniklaus HE. Metastatic presenting in the iris. *Am J Ophthalmol.* 2007 Sep;144(3):477-9.
8. Imamura Y, Suzuki M, Nakajima KI, Murata H. Gastric signet ring cell adenocarcinoma metastatic to the iris. *Am J Ophthalmol.* 2001 Mar;131(3):379-81.
9. Capeáns C, Santos L, Sánchez-Salorio M, Forteza J. Iris metastasis from endometrial carcinoma. *Am J Ophthalmol.* 1998 May;125(5):729-30.
10. Gündüz K, Shields JA, Shields CL, De Potter P, Wayner MJ. Ewing sarcoma metastatic to the iris. *Am J Ophthalmol.* 1997 Oct;124(4):550-2.
11. Kurosawa A, Sawaguchi S. Iris metastasis from squamous cell carcinoma of the uterine cervix. Case report. *Arch Ophthalmol.* 1987 May;105(5):618.
12. Alacacioğlu A, Oztop I, Fidan F, Akkoçlu A, Kargi A, Osma E, Ada E, Yılmaz U. Tumori. 2008 Sep-Oct;94(5):765-8. Diabetes insipidus caused by pituitary gland metastasis accompanied by iris metastasis of small cell lung cancer: case presentation and review of the literature.
13. Kreusel KM, Wiegel T, Stange M, Bornfeld N, Foerster MH. Intraocular metastases of metastatic breast carcinoma in the woman. Incidence, risk factors and therapy. *Ophthalmologe.* 2000 May;97(5):342-6.