

Retro-Orbital Metastasis From Breast Cancer: An Uncommon Site!

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Citation

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Abstract

We report the case of a 65 year old lady who presented with symptomatic retro-bulbar metastasis from breast cancer at first presentation. This was diagnosed on CT of the orbit and confirmed on biopsy. She was also found to have widespread metastatic disease elsewhere and had systemic treatment in the form of cytotoxic chemotherapy to which the tumour showed a good response. There are only a handful of cases of orbital metastases in the literature, and of these, retro-bulbar tumours are even rarer. There is no report to date of simultaneous presentation of breast primary and symptomatic secondary in the retro-bulbar region.

INTRODUCTION

Breast cancer is the commonest cancer in the female population with a lifetime risk of 10 %. Approximately 8% of these cancers present with tumours at secondary sites at first presentation. The commonest sites for metastasis are bone, liver, lung, skin and brain. However tumour can be found in almost any site. In 12-31% of affected patients, eye metastases are the first sign of malignant disease or metastatic spread¹. In most cases of intra-orbital disease, the tumour is in the choroid.

We report the case of a 65 year old lady who presented with a 6 month history of painless breast lump and ptosis. She was diagnosed to have invasive lobular carcinoma for which she underwent local excision biopsy and cavity margin sampling. The ptosis was found to have been caused due to retro-bulbar metastasis from breast cancer. She responded well to palliative treatment for the cancer which resulted in improvement in her quality of life.

CASE REPORT

A 65 year old lady presented with a 6 month history of a painless lump in the left breast and ptosis. She previously had no medical complaints and had no family history of breast cancer. She had attained menarche at the age of 15 years, had 2 children and had breast-fed one of them for 4 months. She had never been on the oral contraceptive pill but had taken hormone replacement therapy for approximately 10 years. She smoked 15 cigarettes per day

for as long as she could remember.

On examination, she was found to have an ill-defined lump behind and slightly below the left nipple. The nipple was indrawn. There was a large fixed lymph node in the axilla. Mammography showed thickening in the region of the nipple but no mass lesion. The core biopsy however showed invasive lobular cancer. A wide local excision biopsy and level 3 axillary clearance was planned. At surgery it was found that the lymph node in the axilla was adherent to the nerve to the latissimus dorsi, axillary vein and T2 nerve. Therefore, only a biopsy was performed. The histopathology report showed positive cavity margins with multifocal lobular carcinoma in situ (T3G3N1 (8/8+)), NPI 6+, ER -ve. A total mastectomy was planned.

A CT scan of the orbit showed a mass around the levator muscles (Figure 1 and 2).

Figure 1

Figure 1: Axial image – CT orbits with mass seen.

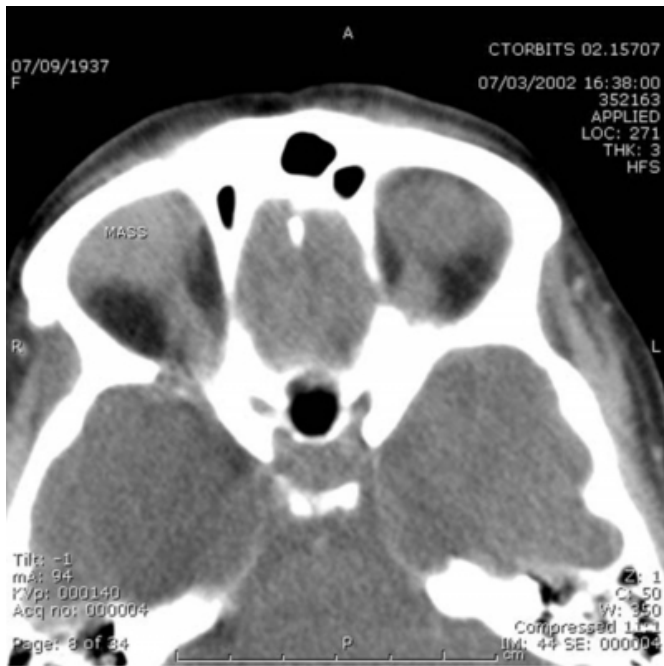


Figure 2

Figure 2: Sagittal image – CT of right orbit with mass.



The ptosis rapidly progressed resulting in enophthalmos, swelling of the upper eyelid and a plaque across the eye-lid extending into the eyebrow. There was also a fullness of the lower eye-lid, 2 scalp nodules and a suspicious plaque extending towards the forehead. A biopsy of the retro-bulbar mass showed metastases from the primary breast cancer. She received radiation therapy to the orbit and tumour regression

was observed clinically and on CT scanning.

6 months later, she presented with dysphagia which was confirmed to be linitus plastica due to spread from breast cancer. She also developed subcutaneous nodules in the axillary and scar and omental deposits of tumour as seen on CT abdomen. She was started on chemotherapy with Capecitabine and Vinorelbine with Prednisolone in view of widespread metastatic disease. Survival after diagnosis of retro-bulbar metastasis was three years.

DISCUSSION

8% of all breast cancer patients present with symptomatic metastatic disease at first presentation. In 12-31% eye metastases are the first sign of metastatic spread^{1,2,3,4}. At autopsy, 10-30% of breast cancer patients are found to have ocular and orbital metastases. Extra-bulbar location of tumour as in this case accounts for only 3-10% cases⁸.

Metastases of the eye have been described for various solid tumours but breast cancer accounts for the majority of ocular and orbital metastases^{5, 6, 7}. This is mainly on account of the high incidence of breast cancer. However, there may in addition be an as yet ill-defined factor for this occurrence.

Diagnosis of this disease entity requires a high clinical suspicion. The patient may complain of orbital pain, diplopia or ptosis. CT is one of the modalities of diagnosis. Ultrasound and MRI have also been used. Biopsy remains the gold standard. It is recommended especially in cases where the patient is for consideration of enucleation on suspicion of choroidal tumour. Enophthalmos in these cases is rare, there being only 1 other case so far described. The hypothesis suggested is that fibrosis associated with tumour causes pulling back of the eye-ball into the socket. The resulting increase in pressure causes atrophy of fat in the orbit. The increase in the tumour bulk is slower as compared to the rate of fat atrophy. This is most likely to occur in metastatic scirrhous breast cancer⁹.

Patients with orbital metastases are usually found to have widespread metastatic disease elsewhere. Treatment of the primary is dictated by this. Most of these cases respond well to local radiotherapy for the metastases. Cytotoxic chemotherapy is usually needed for systemic disease. Patient survival is approximately 24 months after detection of distant metastases and overall survival is not affected by the presence of orbital metastases.

CONCLUSIONS

This case highlights several important points. A breast cancer patient can present with a metastatic retro-bulbar tumour at presentation of the primary. The diagnosis is made on a high index of suspicion given the varied symptoms. Orbital metastases are usually accompanied with widespread metastatic disease elsewhere and the treatment is guided by this keeping in mind the quality of life of the patient. Retro-bulbar tumour does not per se have a bearing on the median survival.

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