

Carcinoma of the Breast with Orbital Metastasis in a Young Nigerian - A case Report

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SUMMARY

Orbital metastasis is rarely the first sign of a malignant process. Most cases of metastatic orbital tumours are diagnosed in patients with known primaries elsewhere.

The patient presented is one of the unusual cases of breast carcinoma in a young person. Her primary presentation to the eye clinic with "orbital inflammatory disease" (which turned out to be a metastasis into the orbit) prior to the diagnosis of the primary disease makes her even more unusual. All cases of "inflammatory orbital disease" require a full and thorough physical examination.

KEY WORDS: BREAST CANCER, YOUNG, METASTASIS

INTRODUCTION

Even though breast cancer is a world-wide malignant condition in women^{1, 2}. It is usually not seen in women as young as 16 years of age. Also orbital metastasis is not a common feature of breast cancer. We present here a 16 year old girl with breast cancer and metastasis to the right orbit.

CASE PRESENTATION

J. O., hospital number 606284, was a 16-years-old Nigerian schoolgirl living in Ibadan. She presented to the eye clinic with a two-week history of painful swelling of her right eye. She had lost vision in that eye six days prior to presentation. She earlier received treatment at a private hospital and a spiritual healer without any improvement before presentation to University College Hospital Clinic outpatient, in Ibadan.

There had been no associated fever but she admitted to having lost weight over the previous four weeks. She had no facial injury, or boil around the eyes, or headache. Her menarche was at age 13 years. Her last menstrual period was one month before presentation and she had a normal flow. She had never been pregnant.

On examination she was ill-looking, toxic but a-febrile. Her right visual acuity was counting finger and left was 6/5.

There was an axial proptosis of the right eye. This was associated with conjunctival chemosis and exposure keratitis. The pupil was small and unreactive and extraocular muscle movements were restricted in all directions of gaze. There was felt a soft swelling in the superior nasal quadrant of the orbit. There was no neck stiffness. Kernig's sign was negative. There were no nasal or pharyngeal masses seen. The other systems were normal.

An impression of right orbital cellulitis was made, with a differential diagnosis of a primary orbital tumour, which could be a lymphoma or a pseudotumour. Results of Investigations were as follows: Packed cell volume was 36%. Total white blood count was 9,200/mm³, out of which neutrophils were 76%, Lymphocytes were 23% and monocytes were 1%. The cells were normal in appearance. The Patient's genotype was A.

The skull X-ray was normal, the orbit X-ray showed a soft tissue mass with no bony abnormalities.

Diagnostic aspiration of the "pus" showed no organism either on microscopy or culture.

However, the patient was treated on the basis of the painful ophthalmoplegia and soft mass in the orbit with antibiotics. She received intramuscular Gentamycin 80mg 8hourly plus Ampiclox 1GM 6hourly for one week without any improvement.

A re-evaluation and examination of the patient revealed a small swelling 1.5cm in diameter at the upper inner quadrant of right breast This was non-tender, not attached to skin or underlying muscle. There was no nipple discharge nor were there axillary or cervical lymphadenopathy.

An excision biopsy of both the orbital mass and the breast lump was reported as follows.

Histology of the orbital specimen showed a cellular mass composed of diffuse sheets of pleomorphic cells with vesicular nuclei with 2-3 prominent nucleoli. The cells occasional form acini structures containing PAS positive materials. Breast lump showed a similar diffuse pleomorphic cells infiltrating between fat cells. There was no attempt at differentiation. Plasma cells and mature lymphocytes were present. Appearance was suggestive of anaplastic carcinoma of the breast with metastasis to the orbit. On further questioning, the patient denied any history of breast cancer in the family.

On the advice of the oncologist, the patient received a combination of 5 Fluorouracil, Endoxan and methotrexate. There was an initial response but the patient went downhill about the 4th week of chemotherapy. She died of gastrointestinal complications, severe diarrhea. Consent for a postmortem examination was refused by parents.



FIGURE 1: Right orbital metastasis from carcinoma of the breast.

DISCUSSION

Metastatic tumours of the orbit are not common^{3,4,5,6}. They comprise 7.3% of all orbital tumours in Henderson's series³ Olurin and Williams⁴ in a 9-years period reviewed 191 cases of orbito-ocular tumours that were histologically diagnosed and found none that was a metastatic orbital tumour. Most reported cases of orbital tumours in Ibadan

were either Burkitt's Lymphoma, retinoblastoma, squamous cell carcinoma or rhabdomyosarcoma⁴.

Although the orbit is not a frequent site for metastatic tumours, few reports have identified the orbit as sites for metastasis from tumors whose primary sites were breast^{5, 6, 7, 8, 9, 10} lungs^{11, 20} prostate gland^{7, 14} uveal melanoma in the contra lateral eye^{15,16}. Very rare sources of metastasis to the orbit are pancreas, liver^{17, 18} kidneys¹⁹, and parotid gland¹².

Orbital metastasis is rarely the first sign of a malignant process. Most cases of metastatic orbital tumours are diagnosed in patients with known primaries elsewhere^{5,6}. The orbital involvement could manifest within six months to forty years after the primary condition had been diagnosed and treated^{8,16}.

Metastatic orbital tumours rarely occur as a first indication of a systemic disease. Patients often have widespread systemic involvement.

Rarely, orbital metastasis could be the first sign of a malignant process which starts to be general^{17,18}. Such cases may present to the ophthalmologist prior to the detection of the primary site of the tumour. The clinical presentation is usually a unilateral proptosis with or without inflammatory signs, with ophthalmoplegia and blindness.

When Carcinoma of the breast metastasize, the common sites are lymph nodes, liver, bones and lungs and rarely the orbit^{4,5,6,7}. When it does metastasize into the orbit, discrete metastases to the extrinsic ocular muscles occur early^{6,24}. There is a suggestion that this may be a specific feature of orbital metastatic tumour²³.

Carcinoma of the breast is rare in childhood and is uncommon in young adults^{24,25,26}. A distinctive type, secretory carcinoma is for unknown reasons the commonest type seen in children^{25,26}.

Carcinoma of the breast in those under 20 years constitute 0.09% of all cases in the U.S.A.¹¹ and as much as 0.8% at the cancer registry in Ibadan, Nigeria.²⁷ The proportion of patients under 34 years are higher in Ibadan compared to U.S.A. and Canada²⁸.

Our patient is one of the unusual cases of breast carcinoma in a young person. Her primary presentation to the eye clinic with orbital metastasis, prior to the diagnosis of the primary diseases makes her even more unusual. The source of the primary tumour was not conspicuous. In fact the breast lump was missed initially.

In conclusion all patients with "inflammatory orbital diseases" require a full and thorough physical examination.

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