CASE REPORT

Truth under a masquerade!

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SUMMARY

A 32-year-old woman presented with bilateral periorbital oedema of 2 days duration which progressed to proptosis, chemosis with diminution of vision rapidly within a week. She was a known case of adenocarcinoma of the rectum who was treated with surgery and chemotherapy 6 months earlier. Metastasis workup carried out then was negative. On examination, she had bilateral axial proptosis with sluggish pupillary reactions with restricted extra ocular movements. Fundus examination was normal. Systemically, the patient was of poor build and was undernourished. Haemogram showed raised total counts and erythrocyte sedimentation rate. CT orbit and brain showed metastasis to the frontal bones and orbit. On investigating further, the patient had liver and lung metastasis. The patient was started on chemotherapy, but she succumbed to the disease within a week. This case is reported to highlight how bilateral orbital cellulitis can be a presenting sign of systemic metastasis in treated malignancies.

BACKGROUND

Although metastasis to the orbit has been reported from breast, lung and prostate, metastasis to the orbit from the gastrointestinal tract is very rare. Unfortunately, the discovery of orbital metastases usually indicates advanced and widespread metastatic disease and prognosis is poor with the majority of patients succumbing to their illness within a year. Hence, we report this case where metastasis from a treated primary presented as a masquerade as an orbital inflammatory disease. As per the authors' knowledge, this is the first case of metastasis to the orbit presenting as bilateral orbital cellulitis in a treated case of rectal adenocarcinoma where the patient was declared free of the disease.

CASE PRESENTATION

A 32-year-old woman came to the ophthalmology emergency clinic presenting with gradually worsening bilateral ocular pain, redness, discharge and periorbital swelling with deterioration in vision. The symptoms started a week previously which rapidly progressed to cause proptosis. She denied any history of prior ocular disease. She also had symptoms of anorexia and loss of weight for the past 2 months. She had no history of fever. She was a known case of poorly differentiated rectal adenocarcinoma who had undergone abdominoperineal resection as a therapeutic procedure with three cycles of chemotherapy 6 months previously. A metastasis workup carried out then was normal. She did not give any history of diabetes mellitus or hypertension.

On examination, she was moderately built and poorly nourished with a body weight of 46 kg. She had significant pallor. Systemic examination did not reveal anything of note except for the scar following her previous abdominoperineal resection surgery. There was no organomegaly.

Examination of the orbit revealed bilateral significant axial proptosis with periorbital erythema and oedema (figure 1). There was external ophthalmoplegia with tenderness of the eyelids. Visual acuity was reduced to 6/12, which did not improve with pin hole. There was chemosis congestion of the conjunctiva. Anterior chamber was normal in depth and was optically empty. Pupillary reactions in both eyes were sluggish. Fundus examination did not reveal anything of note. Colour vision was normal. Ear, nose and throat examination did not reveal any abnormalities. There was no preauricular lymphadenopathy.

A presumptive initial diagnosis of bilateral orbital cellulitis of infective/inflammatory aetiology was made.

INVESTIGATIONS

Further, her complete haemogram was obtained. Her haemoglobin was 7.7 g/dL, white cell count $7.1 \times 10^9/L$ and erythrocyte sedimentation rate 40 mm/h (Westergren). Discharge from the conjunctival sac was cultured which showed no growth. Orbital biopsy was not attempted considering her poor general condition and risk of tumour cell dissemination. A CT of the orbit showed hyperdense lesions in the frontal bone and clivus suggestive of metastasis with soft tissue oedema of the orbit (figures 2 and 3). Further, on evaluating systemically, she was found to have liver and lung metastases.

DIFFERENTIAL DIAGNOSIS

Bilateral orbital cellulitis of infective aetiology was first considered owing to the poor general condition of the patient. Orbital metastases was then

Figure 1 Showing bilateral lid oedema and erythema.

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Figure 2 CT coronal section.

diagnosed owing to its rapid onset and progressive course with no response to antibiotics, which was then proved on imaging that showed typical hyperdense lesions. Other lesions such as mucocoeles, infection, Wegener's granulomatosis, malignant granuloma of the medial line, histiocytosis, sarcomas and lymphoid lesions may yield similar findings on imaging as those generated by metastasis. This was distinguished based on history and clinical signs.

TREATMENT

She was started on treatment with systemic ceftriaxone 1 g intravenously dose twice a day and injection metronidazole 200 mg intravenously three times a day, presuming an infective aetiology. Along with anti-inflammatory agents the patient did not show significant improvement. Once the diagnosis of orbital and systemic metastases was made, the patient was restarted on chemotherapy.

OUTCOME AND FOLLOW-UP

The patient, however, continued to be unwell despite starting on chemotherapy. She succumbed to the disease within a week.

DISCUSSION

Metastatic carcinoma to the orbit comprises less than 10% of all orbital tumours.^{1 2} Orbital involvement commonly presents late

Figure 3 CT axial section.

in a multisystemic disease. Diplopia (48%), pain (42%) and visual loss (30%) were the commonest symptoms at presentation; whereas, proptosis (63%), strabismus (62%) and visual loss (41%) were the most frequent clinical signs.³ However, our patient presented with a sudden onset of painful ophthalmoplegia and bilateral orbital cellulitis, which is a rare presentation.

Breast carcinoma (29%), melanoma (20%) and prostatic cancer (13%) are the most frequent histological types metastasising to the orbit followed by lung, kidney and gastrointestinal tract.³ Only six cases of orbital metastasis from rectal adenocarcinoma have been reported so far. The most common site for metastasis in the eye is the choroid. Orbital involvement is less common. Its location on the orbit varies, although it appears more frequently in lateral (39%) and upper (32%) areas than in medial (20%) and lower (12%) orbit.⁴

Definite diagnosis of an orbital lesion requires an orbital biopsy. However, in patients with known treated primary cancer, as in our case, orbital biopsy was avoided as there was strong clinical imaging suspicion for metastatic disease and poor general condition of our patient.

Unfortunately, once the diagnosis of orbital metastasis is made, the period of survival is limited to less than 1 year. Hence, early recognition of metastasis may increase the survival period if treated promptly. Orbital cellulitis may be the first sign of metastasis, as in our case, although the patient was treated and declared free of the primary tumour. Although there have been several reports where orbital disease has been the presenting symptom for the diagnosis of underlying primary malignancy.⁵ This is the first case where the orbital disease led to the detection of metastasis from a treated case of rectal adenocarcinoma where the patient was declared free of the disease.

Treatment was often multidisciplinary and modalities included radiotherapy, corticosteroids, chemotherapy, hormone therapy, surgery and immunotherapy. Survival was limited to 1.5 years after diagnosis independent of the histological type, with 29% of patients alive after 17 months follow-up.⁶

Learning points

- ▶ Rectal adenocarcinoma is a rare malignancy in young adults. Metastases from rectal adenocarcinomas to the orbit are extremely rare with deposits favouring the liver and lung.
- ▶ Orbital cellulitis may be the first sign of metastasis to the orbit even in treated cases of primary carcinomas.
- ▶ A strong sense of suspicion may be needed for the early detection of metastasis even when primary malignancy has been treated.
- ▶ Clinicians should be aware of the pitfalls of diagnosis with regards to orbital cellulitis.

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Competing interests None.

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