CASE REPORT

Orbital metastasis as the inaugural presentation of occult rectal cancer

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SUMMARY

Orbital metastasis is uncommon and occurs in 2–3% of patients with cancer. It is rarely the initial manifestation of a systemic malignancy. It usually indicates extensive haematogenous dissemination of a primary cancer and is associated with poor prognosis. Breast, lungs and prostate cancers are the most common primary cancers leading to orbital metastasis. However, orbital tumour revealing a rectal adenocarcinoma is exceptional. We describe a case of orbital tumour in a 67-year-old man with no history of systemic cancer while presenting with ophthalmic symptoms. Investigations revealed rectal adenocarcinoma as the primary malignant tumour.

BACKGROUND

Orbital tumours can be classified into various groups of lesions depending on the aetiology. The specific diagnosis in each case was based on clinical findings, imaging results and histopathological analysis results, when available. Approximately 36% of all orbital tumours are malignant.¹ Metastatic tumour is estimated to account for 1–13% of cases. In 19% of patients with metastatic location, the primary cancer site is undiagnosed.² Thus, a systemic evaluation is necessary in patients with orbital tumours. The present case report describes a very rare case of orbital metastasis in a patient with occult malignant adenocarcinoma of the rectum. Rectal cancer has to be included in the primary source of orbital metastases.

CASE PRESENTATION

A 67-year-old man with a medical history of hypertension presented with a 3-month history of diplopia, visual impairment and periorbital facial pain on the right side. He had lost about 10 kg of weight. He denied fever, abdominal pain or change in bowel habit. In the clinical examination, there was right ptosis, decreased visual acuity and limitation of right ocular movement. Further ophthalmological examination showed normal intraocular pressure and normal bilateral pupils. The left eye was normal. No lymphadenopathy was palpable. The digital rectal examination was normal. The remaining physical examinations were otherwise unremarkable.

INVESTIGATIONS

Haemogram and biochemical investigations were within normal limits. The erythrocyte sedimentation rate was 19 mm/h. C reactive protein was negative. A contrast-enhanced CT of the orbit showed a soft tissue mass located in the right

orbital cavity without bony erosion (figure 1). Further investigations were performed to establish the cause of orbital tumour. The differential diagnosis included systemic diseases, lymphoma, primary or metastatic malignancy. Thyroid function tests were normal. Prostate-specific antigen was 0.39 µg/L. No paraprotein was found on serum electrophoresis. Antinuclear antibodies and anti-neutrophil cytoplasmic antibodies were negative. Chest X-ray and abdominal ultrasonography were normal. Gastric endoscopy was normal. CT of the chest, abdomen and pelvis showed circumferential thickening of the wall of the rectum (figure 2). Endoscopic examination of the rectum demonstrated an ulcerated tumorous lesion which had a diameter of 3 cm, localised at about 10 cm from the anal verge. The rest of the colon was normal. Biopsy results of the rectal mass were consistent with a well-differentiated adenocarcinoma. No other metastatic disease was identified in the chest, bone or abdomen.

TREATMENT

A systemic corticoid therapy with prednisolone at a dosage of 1 mg/kg/J was initiated.

OUTCOME AND FOLLOW-UP

Orbital symptoms partially improved within 2 weeks of treatment. The patient was secondary transferred to the oncology department for a rectal tumour resection.

DISCUSSION

Management of a patient with orbital involvement includes a vigorous search for underlying

Figure 1 Axial CT showing a large mass in the right orbit.

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Figure 2 CT of the abdomen and pelvis showing circumferential thickening of the wall of the rectum.

aetiology.³ In our case, investigations rule out any infectious, Graves' ophthalmopathy or systemic disease that can cause orbital inflammatory manifestations such as polyarteritis nodosa, Wegener's granulomatosis and sarcoidosis. Physicians should bear in mind primary malignant causes and metastasis from a solid tumour as differential diagnosis among patients with orbital tumour. There have been many reports of orbital metastases from different primary sources. Most orbital metastases originate from breast, lungs, prostate and skin melanoma.^{1 3} Other sites of primaries include kidney, thyroid, stomach and pancreas.⁴⁻⁶ Our patient with metastatic rectal cancer involving the orbit is an unusual case, with only seven other cases reported in the literature.⁷⁻¹¹

The most common presenting symptoms of orbital metastases are pain, diplopia and proptosis, unilaterally in the majority of cases.^{12 13} The growth of the tumour is generally rapid and can cause motility disturbances, reduction in vision, exophthalmia and palpable mass.¹⁴ As our case showed, a contrast-enhanced CT of the orbit or MRI establishes the diagnosis of orbital involvement. Metastasis appears as a high-density soft tissue mass of the involved orbit with a marked contrast enhancement.¹⁵ However, this imaging finding is non-specific. The next step was to search for the aetiology of the orbital mass. Other tumours must be considered in the differential diagnosis such as lymphoma, rhabdomyosarcoma and meningioma. If careful systemic investigations do not identify the underlying cause, subsequent biopsy of the orbital lesion is recommended. Generally, histopathological studies lead to the definitive diagnosis. In our case, orbital biopsy was not performed because the histological findings of the rectal specimen were consistent of the malignant source.

Rectal cancer generally metastasises to the liver, lungs or bone, usually via haematogenous spread. Metastasis to other sites such as skeletal muscle, heart, skin, ovary and thyroid is rare and usually occurs late in patients with widely disseminated disease. Orbital location is extremely rare.

The prognosis of patients with orbital metastases is poor with a median survival between 10 and 20 months.¹¹ This context was not present in our case. No other metastatic disease was identified. Orbital metastasis was the inaugural and isolated manifestation of rectal cancer. Treatment for orbital metastasis is

generally palliative. Systemic corticoids and chemotherapy can be used.^{7 15} But, orbital radiotherapy is the mainstay therapy and can improve orbital symptoms in 70–90% of cases and diminish the size of the tumour.¹⁶ Furthermore, an early management of the rectal cancer with the specific therapy can improve not only the primary lesion, but also the orbital metastasis.

Learning points

- Involvement of orbit in metastatic disease is uncommon, with the breast, lungs and prostate cancers being the most common primary neoplasm. A review of the literature shows that only a few cases have described rectal cancer as the primary tumour.
- In case of orbital tumours, systematic explorations and endoscopic screening should be envisaged even at asymptomatic patients to identify an occult primary malignancy.
- This case emphasises the fact that rectal cancer can metastasise to unusual sites and should be considered in the differential diagnosis of metastatic orbital tumour.

Competing interests None.

Patient consent Obtained.

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