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Post-resectional Intraocular Metastasis in Colonic Lymphoma

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Abstract

A 64 year male, operated for colonic non-Hodgkin B cell lymphoma presented with unilateral loss of vision. On fundus examination there was optic disc edema with creamy white metastasis in subretinal space and opacity of similar colour in vitreous cavity. Cytopathology of the vitreous humour tap conformed ocular metastasis from the colonic lymphoma. Intraocular metastasis of systemic lymphomas is an uncommon entity and to the best of our knowledge ocular metastasis from colonic lymphoma has not yet been reported.

Key words: Intraocular metastasis, intraocular lymphoma, Colonic lymphoma, Gastrointestinal lymphoma, Ocular tumour, Intraocular mass

Introduction

Oncosurgeons often refer patients of primary systemic malignancies to ophthalmologists for ruling out the possibilities of intraocular metastasis. Hence, ophthalmologists should have a thorough idea regarding the clinical manifestations of malignancies affecting ocular structures. We hereby report a case of subretinal metastasis originating from colonic lymphoma and discuss contemporary relevant literature.

Case report

A 64-year male presented with complaint of sudden painless diminution of vision OS for 3 days. Five months prior to the episode he had undergone partial colectomy for a mass in the descending colon that was histologically proven a lymphoma. Intraoperatively tumour invasion of the colon wall, omentum and metastasis to the inferior mesenteric lymph nodes and liver were noted. Post operatively the patient received 8 cycles of chemotherapy “CHOP regimen” spaced over 18 weeks. Tumour marker analysis showed cells were LCA (Leukocyte common antigen) +ve, CD 20+ve, CD10+ve, Ki67+ve, Vimentin focally +ve, Calretinin -ve, CD117-ve, CK-ve, Desmin -ve, S-100-ve; consistent with Non Hodgkin Lymphoma B cell type.

On ocular examination vision OD was 20/20, OS was PL absent. On funduscopy, there was marked disc edema OS with peripapillary superficial hemorrhages. There was mild arteriolar attenuation with a cherry red spot at the macula. In the peripapillary area a creamy white mass was noted subretinally and a snowball opacity of similar colour in posterior cortical vitreous (Figure-1) and normal right eye. OS direct and OD indirect pupillary reactions were absent. Slit lamp anterior segment examination showed retrolental cells OS, with IOP OU 12 mm Hg by Goldmannaplanationtonometer. MRI brain and spine did not show a CNS metastasis or ventriculomegaly. Cerebrospinal fluid tap showed normal opening pressure and no tumour cells. Cardiac echocardiography and Carotid Doppler, done to rule out embolic source were normal. Hematological profile showed leukocytosis (16000/mm³ against a normal of 4000-11000/ mm³). The coagulation profile was normal. A clinical diagnosis of intraocular peripapillary tumour metastasis with central retinal artery occlusion was made.

The patient underwent a pars plana vitreous tap and the undiluted sample was sent for cytopathological analysis, which tested, negative. A repeat test was taken after 2 weeks , which showed tumour cells, confirming the diagnosis. The patient refused to undergo any intervention and died after 3 months.

Discussion

It is a known fact that hematological malignancies may affect the eyes. The ocular manifestations can be direct (infiltration of tissue by tumour cells in leukemia or lymphoma) or manifestations of complications of malignancy (anemia, thrombocytopenia and hyperviscosity in leukemia).

In contrast to high rates of ocular involvement in leukemias (90%), ocular metastasis in lymphomas has been reported uncommonly. Nelson et al found that only 4 of 60 patients dying of systemic lymphoma having intraocular involvement.³ Similarly Omotietal in a cross-sectional analysis reported 3 out of 62 patients with systemic lymphoma with intraocular manifestations. Management comprises of systemic chemotherapy and palliative care although the survival prognosis in most cases is grim.⁴

Intraocular metastasis is commoner in Non-Hodgkin lymphoma compared to Hodgkin lymphoma and has been reported in cutaneous T cell lymphoma⁵, peripheral T cell lymphomas⁶, Adult T cell lymphoma⁷, Burkitt's lymphoma⁸, diffuse large B cell lymphoma⁹, and NK cell lymphoma.¹⁰ We found almost equal number of reports of tumors of T cell and B cell origin having ocular metastasis. This is in contrast to primary intraocular lymphomas, which are predominantly B cell in origin.

The clinical presentations include choroidal mass lesion, granulomatous anterior uveitis, vitritis, infiltrative optic neuropathy, vitreous hemorrhage, multifocal choroiditis, necrotizing retinopathy and retinal flecks. Subretinal placoid lesions can also occur in some cases which resolve with scarring. Indirect effects of systemic lymphoma such as central retinal artery occlusion can occur.¹¹ Gass et al reported a case retinal artery obstruction in non-Hodgkin's large cell lymphoma (reticulum cell sarcoma). Histopathology examination revealed extensive lymphomatous infiltration and necrosis of the retina and optic nerve.¹²

In our case the patient had predominant subretinal seeding of the tumour. The severe disc edema was presumably due to infiltration of the optic nerve with tumour cells. We conjecture that retinal artery occlusion in our case was due to optic nerve and vascular infiltration since the coagulation profile was normal and imaging did not show any retrobulbar mass lesion.

The presentation of metastatic disease 5 months after the removal of primary lesion and 8 cycles of chemotherapy was initially surprising since imaging showed complete resolution at the primary site. However there are supporting evidences from the past to this. Ramasubramanian et al reported ocular metastasis, which occurred 6 years after clinical remission in a case of Burkitt's lymphoma.⁸ Similarly Svozílkova et al reported ocular metastasis which occurred 19 months of clinical remission in case of follicular lymphoma.¹³

The primary sites reported in literature are skin, nasal cavity, pelvis and lymph node. To the best of our knowledge ocular metastasis from colonic lymphoma has not been described. We conclude that ophthalmologists and oncosurgeons participating in the care of patients with colonic lymphoma should keep this differential diagnosis when they present with complaints of visual loss.

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Legend: Fundus photograph OS showing creamy subretinal tumour metastasis with cherry red spot at the macula