



OUTCOMES IN EYE CANCER PATIENTS AMID COVID -19 PANDEMIC: A CASE SERIES

Ophthalmology

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ABSTRACT

COVID -19 pandemic had a severe impact over medical services across the globe.Lockdown was imposed to prevent the spread of coronavirus which caused lot of hardship to people.The non availability of ophthalmic oncology services during the lockdown period affected the final outcome in these cases.Ophthalmic consultation was sought late by patients affected with eye cancer and treatment was provided to save life of these patients. We came across a series of ocular malignancies which posed challenges to us as it was in advanced stage and threatening the survival of the patient. The aim of reporting these case series is to acknowledge the difficulties all medical personnel encounter in managing non COVID patients particularly oncology cases.

KEYWORDS

COVID -19, pandemic,oncology,patient

INTRODUCTION

The first case of COVID -19 was reported in Wuhan, a city located within the central province of China in Dec 2019 where as in India the first case was reported in Kerala on 30th Jan 2020.^{[1],[2]} To contain the spread of the disease lockdown was imposed in India on 24 March 2020 which was continued till 31 May 2020 and during the same time across the globe.The lockdown caused massive disruptions in delivery of health care services and had a severe impact on care of cancer patients across the globe. The central government in various countries issued guidelines to run non-COVID related emergency health services including provision of oncology services amid lockdown. But few patients had an access to these services due to lack of transportation and clinical services in most cancer hospital remained curtailed for most of the lockdown period.^{[3],[4]} Many eye cancer patients did not seek consultation on time as they were so frightened of contracting the COVID -19 infection themselves which gravely affected the outcome of the disease in these cases.There is paucity of data regarding outcomes in non COVID patients amid ongoing COVID-19 pandemic as main focus was on managing COVID patients and to prevent its further spread among community. In this study we report a case series of ocular oncology cases who sought treatment at our centre when disease was in last stage and intervention was done to save life as globe salvage could not be possible as the disease was in advanced stage.

CASE DESCRIPTIONS

Case 1

Four years old male patient was brought to our centre by his parents on 14 July 2020 with complaints of white reflex in right eye and inward deviation of right eye since 04 months[(Figure 1)a,yellow arrow].Ocular examination showed patient was not following light in RE and 15 degree esotropia was also present in right eye.Further examination was done in general anaesthesia which showed normal corneal diameter and axial length in both eyes.On refraction white glow was noticed in RE and in LE it was + 4 D sph in both meridian. IOP with tonopen in RE was 28 mm Hg and in LE was 14 mm Hg. Fundus examination in RE showed yellowish white endophytic lesion occupying the whole vitreous and almost touching the posterior part of lens[(Figure 1)b, black arrow].Optic nerve was not visible.Fundus in LE was essentially normal.Systemic evaluation was done by paediatrician which did not reveal any abnormality. B scan in right eye showed hyperechoic lesion with irregular contours and a few calcium deposits within the lesion suggesting calcification[(Figure 1)c,yellow arrow].MRI orbit showed well defined lobulated endophytic intraocular mass lesion occupying the post aspect of right globe[(Figure 1)d,yellow arrow].However,there was no involvement

of the retroocular optic nerve and sclera.There was no evidence of intracranial extension. Patient was diagnosed as a case of RE retinoblastoma group E based on clinical finding, ultrasound B scan and MRI orbit.Patient was advised Enucleation with implant in RE as it was group E retinoblastoma associated with raised IOP.Patient underwent surgery on 21 July 2020 by myoconjunctival technique under GA and postoperative period was uneventful (Figure 1)e.Histopathological examination confirmed the diagnosis which showed small round cell tumor and occasional rosette formation [(Figure 1)f, black arrow]. After one week patient tarsorrhaphy suture was removed and conformer was found in situ[(Figure 1)g, yellow arrow]. After one month patient was sent for customized ocular prosthesis.

CASE 2

Fourty six years old serving soldier reported to our centre on 01/08/2020 with complaints of sudden loss of vision in right eye since 05 months.Also complaining of pain and redness in the same eye since 04 months[(Figure 2)a,black arrow]. On examination in right eye vision was perception of light and in left eye was 20/20.Relative afferent pupillary defect was found in RE.Slit lamp examination showed blepharospasm,congested conjunctiva,shallow anterior chamber[(Figure 2)b.Fundus was not visible in right eye. Clinical examination did not reveal any abnormality in left eye.B scan in right eye showed mushroom- shaped intraocular lesion measuring about 16x 10mm was seen arising from the choroid protruding into the vitreous with retinal detachment[(Figure 2)c,yellow arrow].MRI orbit showed intraocular mass arising from choroid without any involvement of sclera and optic nerve[(Figure 2),yellow arrow].There was no evidence of intracranial extension.Patient was diagnosed as a case of choroidal melanoma based on clinical examination and B scan features. Patient underwent enucleation with implant in right eye as size of tumor was more than 16 mm in diameter [Figure2] e. Histopathological confirmed the diagnosis which showed epitheloid melanoma.Patient was reviewed again after one week which showed conformer in situ and implant was central[Figure2]g. Patient was advised customized ocular prosthesis in right eye after one month.

CASE 3

Seventy four years old patient resident of Jodhpur reported on 14/06/2020 at our centre with c/o protrusion of mass from right eye since 06 months with h/o discharge and bleeding on touch[Figure 3]a.On examination in vision in right eye was no perception of light whereas in left eye it was 20/80 with no further improvement. External examination showed fungating mass protruding out of right orbit with involvement of upper and lower lid with adjacent skin of

cheek, forehead and nose. Slit lamp examination in left eye showed grade 2 nuclear sclerosis with normal fundus. Systemic examination revealed enlarged cervical lymphadenopathy. MRI orbit showed well defined large lobulated, exuberant mass involving right orbit with a large extraorbital and intraorbital component involving all rectus muscle, fat and right optic nerve [Figure 3]c, b black arrow]. PET CT scan showed metabolically active parenchymal nodular lesion in the apical segment right lung upper lobe and right supraclavicular lymph node suspicious for metastasis [Figure 3]c, yellow arrow]. Incision biopsy was done on 28th June 2020 under local anaesthesia and histopathological examination showed features of moderately differentiated squamous cell carcinoma [Figure 3]d, black arrow]. The outcome in patient with advanced stage squamous cell carcinoma is considerably worse and the mean survival in these patients is 7.5 months. Since our patient had metastasis at the time of presentation and his age was more than 70 years we recommended chemoradiation instead of radical exenteration.

DISCUSSION

COVID-19 had a tremendous impact on eye care services across the length and breadth of all countries. The outbreak of COVID-19 pandemic resulted in non availability of services for non covid cases due to which these cases got neglected and timely intervention even in eye cancer cases could not be done, which affected the outcome in these cases. All these patients did not seek consultation on time amid lockdown due to lack of transportation, beds and fear of contracting the disease themselves also deterred them.^{[5],[6]} The main goal of treatment of retinoblastoma in present era is just not only to get rid of the cancer and save the child's life but is to preserve vision and salvage eye. This is possible only if patient has been brought when tumor is of smaller size. Globe salvage is not possible if tumor is in advanced stage and enucleation is to be performed, same thing happened in our first case. Preferred treatment modality for choroidal melanoma when tumor is of smaller size is transpupillary thermotherapy and plaque brachytherapy (when tumor is around 10-16 mm in size). Enucleation is performed when tumor size is more than 16 mm in size and in advanced stage. In our case as the disease was in advanced stage we had to perform enucleation to save patient's life and prevent systemic spread. Squamous cell carcinoma of eyelid is the second most common eyelid malignancy and is a very aggressive tumor. If not treated on time it can lead to orbital and systemic spread. Hence timely diagnosis of this clinical condition is of paramount importance which could not be possible in our third case due to lockdown imposed by COVID-19 pandemic. He reported very late at our institute and by that it got spread to other part of his body (chest and lymph nodes) and we offered him palliative therapy instead of radical surgery. So we inferred from these cases that equal attention should have been given for non-COVID patients during pandemic. We should have strategies to manage both COVID and non-COVID patients to avoid catastrophic outcome as no one should suffer due to non availability of services as our aim as an ocular oncologist to improve the quality of life not just delaying the death.^[7] In our first two cases we did not recommend globe salvage as subjecting the patient unnecessary to chemotherapy therefore exposing the patient to its side effects and posing risk to the life of the patient. Hence, due to restricted resources few modification in our present management strategy should be made to benefit both patient and the state.^{[8],[9]}

CONCLUSION

Oncology cases have become very challenging to treat amid COVID pandemic as they threaten the survival of the patient if there is a delay in treatment. We should have contingency plan to cater for non-COVID patients amid present pandemic so that care of these patients is not neglected. The other option is slight modification in treatment protocol as resources have become limited and instead of salvaging eye we should consider saving life till COVID-19 pandemic is not over.

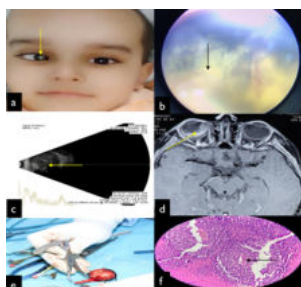


Figure 1

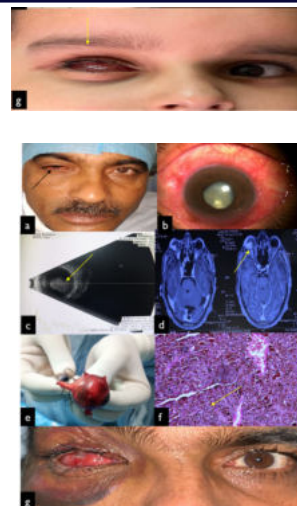


Figure 2

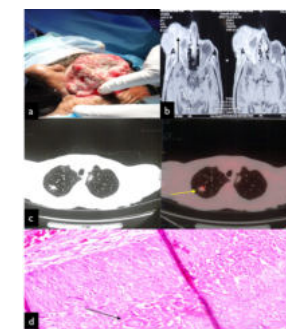


Figure 3

Legends

Figure 1 (a): Clinical photograph showing white reflex in right eye (black arrow).

Figure 1(b): Fundus photograph showing yellowish white mass occupying the whole vitreous (black arrow).

Figure 1(c): Ultrasound B scan showing hyperechoic intraocular mass with diffuse intralesional calcification (yellow arrow).

Figure 1(d): MRI orbit showing intraocular mass in the posterior aspect of eyeball with no intracranial extension (yellow arrow).

Figure 1(e): Gross photograph showing enucleated eyeball with 20 mm optic nerve

Figure 1(f): Histopathological features of retinoblastoma showing pseudorosette (black arrow)

Figure (g): Clinical photograph showing conformer in situ in right eye (yellow arrow)

Figure 2(a): Clinical photograph showing redness in right eye (black arrow).

Figure 2(b): Slit lamp photograph showing congested conjunctiva, shallow anterior chamber and mass behind lens (black arrow).

Figure 2(c): Ultrasound B scan showing mushroom-shaped intraocular mass

Figure 2(d): MRI orbit showing intraocular mass in posterior part of eyeball with no involvement of optic nerve and sclera.

Figure 2(e): Gross photograph showing enucleated eyeball.

Figure 2(f): Histopathological features of choroidal melanoma showing epithelioid cell

Figure 2(g): Clinical photograph showing conformer in situ in right eye

Figure 3(a): Clinical photograph showing fungating mass protruding out of right orbit.

Figure 3(b): MRI orbit showing large lobulated, exuberant mass involving right orbit (black arrow).

Figure 3(c): PET CT scan showing metabolically active parenchymal nodular lesion in right lung upper lobe (yellow arrow)

Figure 3(d): Histopathological features of squamous cell carcinoma showing keratin pearl (black arrow)

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