

DUAL THERAPY IN A REFRACTORY CASE OF CAVERNOUS HAEMANGIOMA OF THE ORBIT

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Abstract

Introduction: Cavernous haemangiomas are common benign orbital tumours. We report a case where combined treatment using intralesional sclerosants followed by argon laser excision of the tumour was done.

Case report: A 19-year-old girl presented with a swelling of the right upper lid of 9 years duration causing mechanical ptosis. It was reducible, fluctuant and non-pulsatile. Skin over the swelling was pinchable with no engorged veins. CT scan showed a circumscribed non-enhancing lesion in the anterolateral part of orbital cavity extending to the extraconal compartment suggestive of cavernous haemangioma. Sodium Tetradecyl sulphate was given intralesional under ultrasound guidance over 1 year. Residual mass was excised surgically using diode laser. Histopathology favoured cavernous haemangioma.

Conclusion: The dual therapy in the treatment of orbital haemangioma involving the upper lid is beneficial therapeutically and cosmetically due to acceptable aesthetic and functional outcomes.

Keyword: Cavernous haemangioma, Dual therapy, intralesional sclerosant

Introduction:

Cavernous haemangiomas of the orbit are benign vascular malformations seen uncommonly in adults¹⁻⁴. These are slowly progressive and can subsequently occupy the volume of the globe and the orbit causing symptoms¹⁻³. Although most tumours are asymptomatic and surgical management is advised to only those experiencing symptomatic and cosmetic problems, practitioners

are increasingly using techniques like intralesional sclerosing agents and excimer lasers to help downsize the tumours and reduce intraoperative bleeding before surgical excision. These aesthetically appealing techniques used together in contrast to surgery alone has proven to be more efficient to the patients and the surgeons as was seen in our case.

Case report:

A 19-year-old girl presented with complaints of a swelling of the right upper eyelid for 9 years. The swelling was initially small, 2*2 centimetres and was gradually progressive. There were no associated features like pain or redness of the swelling. The patient did not have fever or loss of weight. No secondary changes like ulceration or fungation were noticed. There was no history of other swellings anywhere in the body. There was moderate grade mechanical ptosis in the right eye. The anterior segment examination was normal in both the eyes except for the 5*4-centimetre diffuse swelling in the right upper lid. The vision in the right eye was 6/9 and in the left eye was 6/6. On inspection of the swelling it extended from the right eye upper lid crease up to the right pupil. There was moderate to severe grade mechanical ptosis of the right upper lid which extended 4-5 mm below the right eye upper limbus. The swelling was diffuse and the skin overlying it was bluish in colour. The surface was smooth and there were no dilated or engorged veins and no visible pulsations. On palpation of the swelling, it extended from the right lateral canthus and involved the lateral $\frac{3}{4}$ of the upper lid. The transillumination test was negative. The margins were well defined with no attachments to the surrounding structures. There were no signs of inflammation and the swelling was partially reducible, compressible, fluctuant, non-pulsatile and the over lying skin was pinchable. There were no bruits on auscultation.

Investigations: The Computerised Tomography (CT) scan showed the evidence of a well circumscribed non enhancing mass lesion in the anterolateral aspect of the orbital cavity which extended minimally into the lacrimal fossa and superolateral extraconal compartment of the eye which was suggestive of lymphoma or cavernous haemangioma of the orbit.(Figures 1, 2, 3) The histopathology and biopsy revealed that the lesion was composed of cystically dilated vessels with a thin wall lined by flattened epithelium. The lumen showed intravascular thrombosis and haemorrhage. The report was suggestive of a right orbital vascular lesion, cavernous haemangioma. (Figure 4)

Treatment: The patient received two doses, 8 months apart (January and August 2018) of

ultrasound guided intralesional sclerosant therapy 1ml of Sodium Tetradecyl sulphate (Injection Setrol 30 milli grams per milli litre) over a period of one year. (Figures 5,6) She responded well to treatment with reduction in size of swelling and mechanical ptosis. The patient returned in January 2019 with complaints of increase in size of the swelling for one month. (Figure 7) The residual mass was excised surgically using an argon diode excimer laser. (Figure 8,9,10). Figure 11 shows the first post-operative day picture where there was lid edema which subsided eventually. The post-operative picture after one month is seen in Figure 12.

Discussion:

The orbital cavernous haemangiomas are found to be more common in women⁵ and the fact that it is seen to progress faster during pregnancy proves its correlation with hormones.⁶

Orbital haemangiomas are usually singular lesions as was seen in our case⁵. Since our patient did not have any proptosis, surgical management was deferred. Although she was symptomatic, clinical and radiological investigations were done first and the patient was followed up accordingly. Intralesional Sclerotherapy is being increasingly used to downsize the tumour due to its safety and ease of administration. This can also avoid surgical manipulation in many cases. The mode of action is by producing endothelial damage and fibrosis with minimal thrombus formation.^{7,8} In our case, although sclerotherapy alone did not help in complete tumour removal, the two doses that were given downsized the tumour by almost two-fold. This enabled faster and easier excision of the mass which was done at a later date. Intraoperative argon excimer laser was used to control bleeding and help clear the field for surgery.

Conclusion:

Intralesional sclerotherapy can be used to down size the vascular tumour. Argon excimer laser can be used to control bleeding on table and reduce post-operative period morbidity. The older methods of using monotherapy can be modified with the newer modalities like dual therapy for acceptable functional and aesthetic outcomes in orbital cavernous haemangioma cases.

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Pictures:



Figure 1-CT scan showing the evidence of a well circumscribed non-enhancing mass lesion, approximately measuring 25*33*38 mm (Ap*Tr*cc) noted in the anterolateral aspect of the orbital cavity and minimally extending into the lacrimal fossa and superolateral extraconal compartment of the eye, suggestive of lymphangioma or cavernous haemangioma of the orbit.

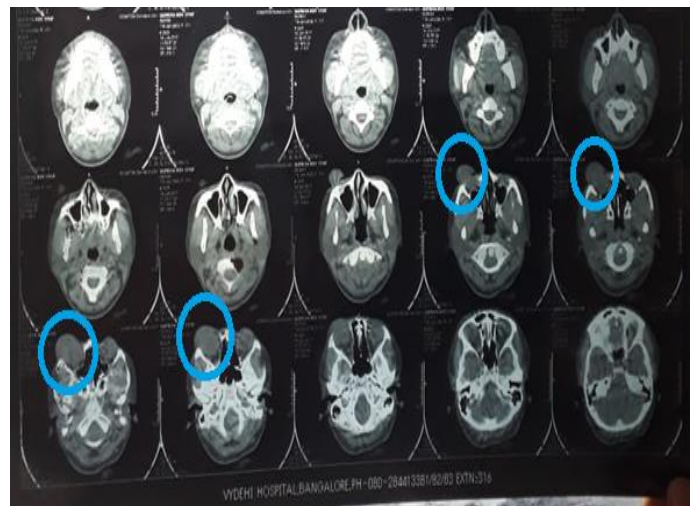


Figure 3 showing the mass in different cuts

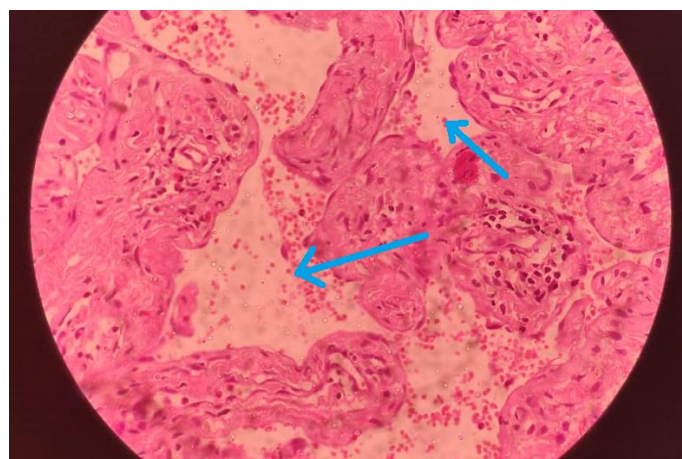


Figure 4 The histopathology and biopsy showed that the lesion was composed of cystically dilated vessels with thin wall lined by flattened epithelium. The lumen showed intravascular thrombosis and hemorrhage which was suggestive of right orbital benign vascular lesion, cavernous hemangioma.

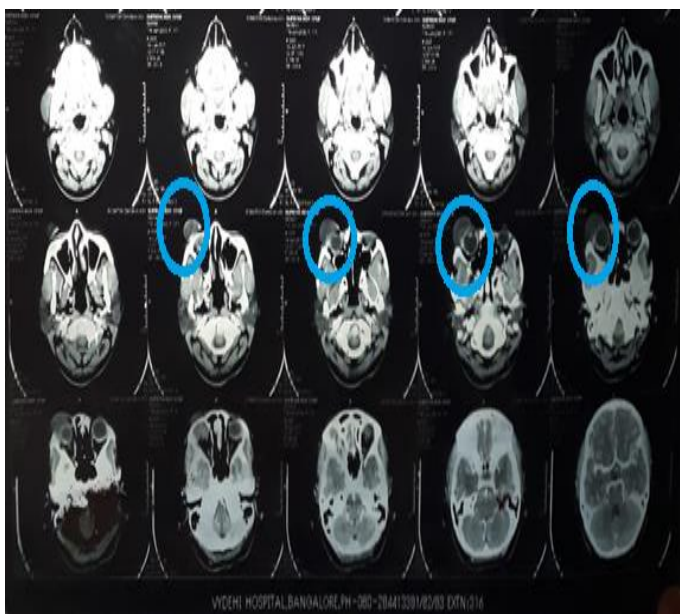


Figure 2 showing the mass in different cuts



Figure 5 shows the lid mass in January 2018 before the first dose of intralesional sclerosant therapy



Figure 6 shows the lid mass in August 2018 before the second dose of intralesional sclerosant therapy where the size has downsized from the previous sized mass

Figure 8 shows the on-table appearance of the lid mass after eversion of the upper lid prior to surgery



Figure 9 shows the incision made on the upper lid crease prior to excision of the mass



Figure 10 shows the argon excimer laser in use for cauterization of the vessels to prevent on table bleeding



Figure 11 shows the postoperative Day 1 picture of the patient after surgical excision of the lid mass

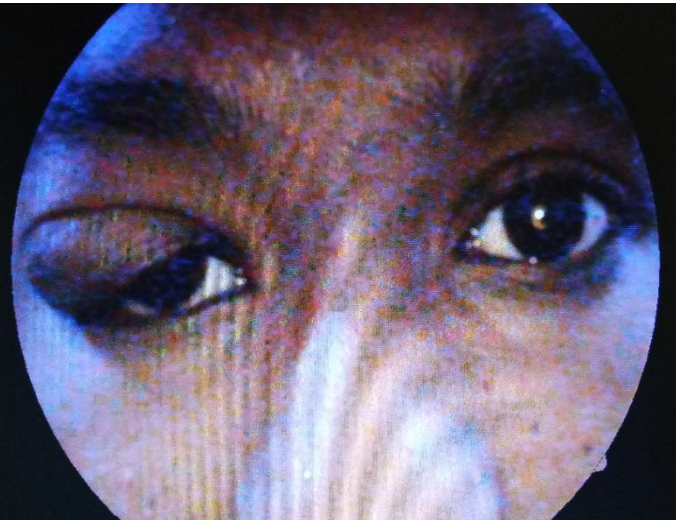


Figure 7 shows the lid mass in January 2019 after two doses of intralesional sclerotherapy and before surgical excision with the argon excimer laser

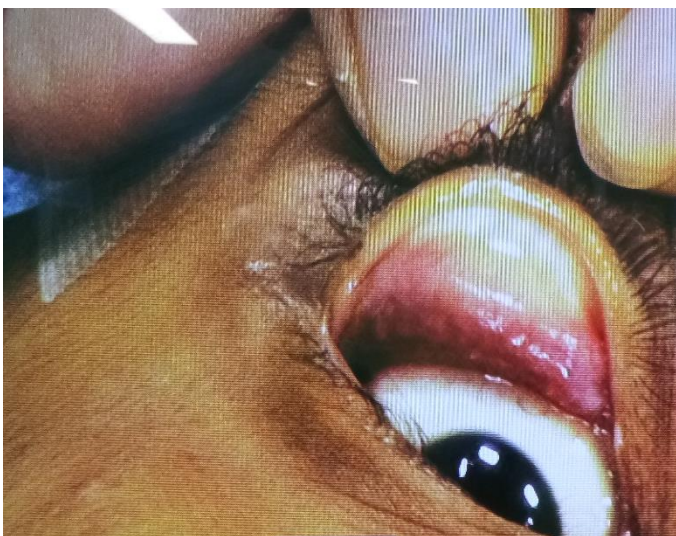




Figure 12 shows the one-month postoperative picture of the same patient

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