Case Report

A Case Report on Optic Nerve Sheath Decompression

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ABSTRACT

Aim : Optic nerve sheath decompression has been shown to improve or stabilize visual function in patients with Intracranial hypertension.

Methodology : A 60 year male with Malignant intracranial hypertension and visual loss underwent Optic Nerve Sheath Decompression. The main outcome measures included Best corrected visual acuity, pupillary light reflex and resolution of papilloedema which was evaluated preoperatively and at follow up at 4 days, 2 weeks, 1 month, 3 months and final follow up.

Results : Following ONSD, significant improvement was observed in BCVA and pupillary reflex occurred over 3 month follow up period. Surgical success was evaluated by resolution of papilloedema.

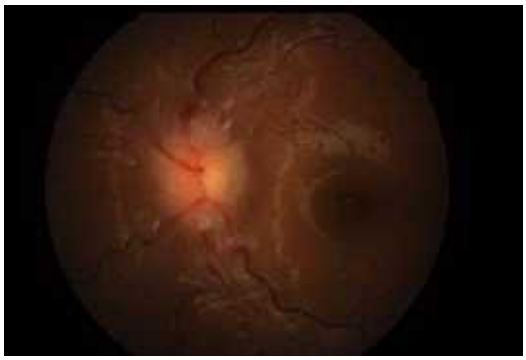
INTRODUCTION

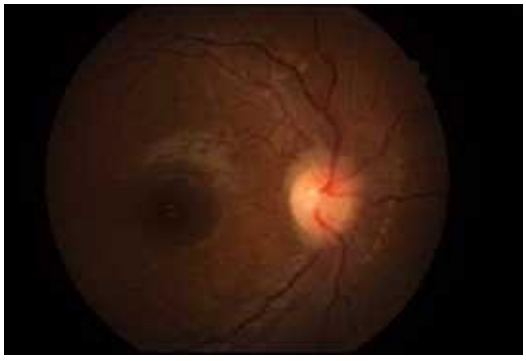
Intracranial hypertension(IH) is a multifactorial syndrome characterized by severe headache,nausea, vomiting, transient visual obscuration and diplopia. Idiopathic intracranial hypertension(IIH) is the terminology used when no underlying aetiology is detected. It is termed secondary IH when an underlying cause is detected like cerebral venous thrombosis(CVT) or a space occupying lesion.

Severe vision loss is significant complication of IIH. The natural history of chronic papilloedema leads to headache, Visual field loss and loss of visual acuity occurs later. Intractable headaches and visual field loss are indications for treatment. Headache is usually treated with oral acetazolamide or frusemide and intravenous mannitol to reduce intracranial pressure (ICP). Intravenous methylprednisolone is given for damage occurred to optic nerve. Cerebrospinal fluid(CSF) shunting procedures are definative treatment for intracranial hypertension. However in cases of sudden loss of vision a direct approach to the distal optic nerve by ONSD is the treatment of choice.

METHODOLOGY

A 60 year male came to our institution with complaints of bifrontal and bitemporal headaches and sudden loss of vision within 4 days. He consulted an ophthalmologist where visual acuity (V/A) was recorded on day 1 for Right Eye 6/24 Left Eye 6/36 day 2 as Right Eye 6/60 Left Eye 3/60 and on day 3 as Right Eye counting fingers 2meter Left Eye counting fingers 1meter and came to our institute





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on 4th day with Both Eye NO PL vision. Pupillary reaction shows Both Eye relative afferent pupillary defect(RAPD) grade 4.On fundus examination revealed florid bilateral disc edema and marked edema of peripapillary retina. Patient was diagnosed as having papilledema with severe impairment of vision most probably secondary to intracranial malignant hypertension.

CSF opening pressure was found to be 350 mmHg and other lab investigations of CSF were within normal limits. MRI shows increase in optic nerve sheath diameter. Relevant investigations were done to detect any metabolic, endocrine, or hematological cause for raised ICP.Optic nerve sheath decompression was performed using a medial transconjuctival approach under general anesthesia in one eye. When one nerve was decompressed, pressure in that nerve sheath dropped and in addition pressure in the unfenestrated sheath dropped due to fluid communication across the chaisma.

Pre operatively a five day course of intravenous methyl prednisolone 1 gm/day in 100cc NS over 3-5 hrs was started. Patient was discharged on 5th post operative day having visiual acuity of counting fingers 3meters. Patient came for follow up after 1 month with visual acuity of couting finger 6 meters vision in both eye. Then patient was lost to follow up.

RESULTS

Visual acuity was improved to Counting Finger 3 meters in both eye on 5th post operative day. Fundus examination shows resolution of papilledema. Patient came for follow up after 1 month with visual acuity of counting finger 6 meters vision in both eye. Then patient was lost to follow up.

DISCUSSSION

These cases should be taken up for surgical management at the earliest to give good functional results. Malignant intracranial hypertension has poor prognosis but early treatment is beneficial for visual outcome.