

Case Report

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Unilateral blindness following elective nasal septoplasty

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Abstract

Purpose: To report a case of unilateral blindness following nasal septoplasty.

Method: A 38 years old man, who referred to ophthalmology service one day after nasal septoplasty. He complained of vision loss in his right eye and right eye lids swelling and ecchymosis. The paranasal and orbital computed tomography scan revealed direct traumatic lesion to medial part of optic nerve in orbital apex.

Result: Ophthalmic examination revealed a visual acuity of no light perception in right eye and 20/20 in left eye. There was positive marcus gunn in right eye and no direct reaction to light. Indirect ophthalmoscopy was normal in both eyes.

Conclusion: Nasal septoplasty is an otorhinolaryngology surgical procedure that performed frequently for the correction of nasal septal deviation. It can be associated with baneful complications Unilateral blindness is a rare, complication of nasal septoplasty.

Keywords: Blindness; Nasal septoplasty; Optic nerve injury.

Introduction

Nasal septoplasty is an otorhinolaryngology surgical procedure that performed frequently for the correction of nasal septal deviation. It can be associated with baneful complications [1]. Septoplasty operation was done under general anesthesia by infiltration of lidocaine 2% and epinephrine in nasal septum. Nasal septum lining incised and elevated from bone and cartilage, nasal septum straightened and lining sutured. Splint placed and sutured in nasal cavity and removed after distinct duration [1,2]. Unilateral blindness is one of the most serious complications of nasal septoplasty. We report a patient who lost his vision in one eye as result of direct trauma to the optic nerve in orbital apex.

Case report

A 38 years old male admitted for elective correction of nasal septal deviation to the right, under general anesthesia. The op-

eration as routine nasal septoplasty was done. Up on awakening the same day of surgery, the patient complained from right eye blindness. Ophthalmic examination revealed a visual acuity of no light perception in right eye and 20/20 in left eye. There was mild right eye lids edema and ecchymosis. There was positive marcus gunn in right eye and no direct reaction to light. Indirect ophthalmoscopy was normal in both eyes (Figure 1). A computerized tomography scan of orbit and paranasal sinuses revealed right optic nerve medial wall fracture and direct trauma to optic nerve in orbital apex (Figure 2). The full field pattern VEP test 4 days after nasal septoplasty showed normal latency and shape of left P100 wave and prolonged P100 wave latency on the right with normal shape indicate prechiasmatic injury of right visual pathway (Figure 3). Treatment with high dose of intra venous corticosteroid and intra venous erythropoietin was initiated immediately but vision did not improve after systemic treatments. Informed consents obtained from patient.



Figure 1: Right eye fundus photograph showed normal appearance of posterior pole.

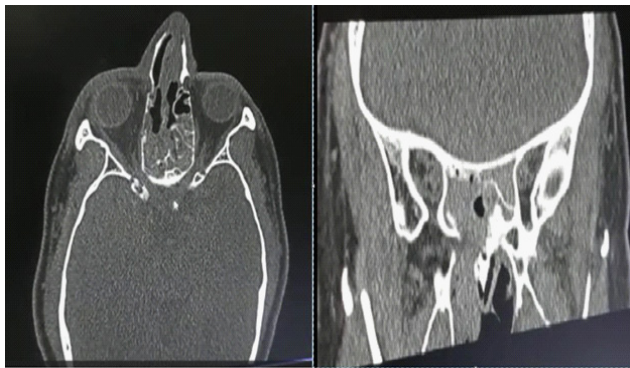


Figure 2: Orbital CT scan showing right optic nerve medial wall fracture. LEFT. axial view, RIGHT. coronal view.

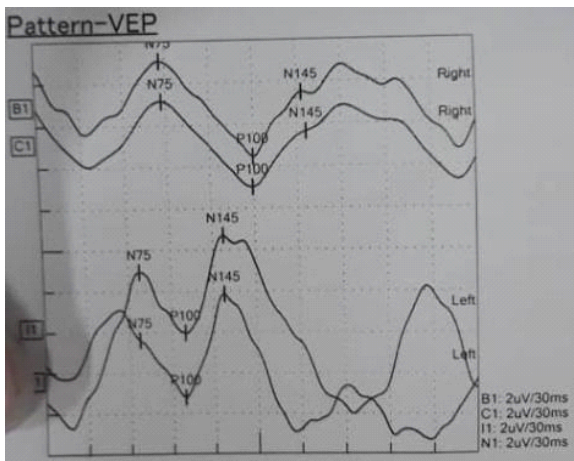


Figure 3: Full field PRVEP showed normal latency and shape of left P100 wave and prolonged P100 wave latency on the right with normal shape.

Discussion

Unilateral vision loss is a baneful complication following nasal septoplasty. There are few case reports on unilateral vision loss following nasal septoplasty. A case report in Brazil reported unilateral vision loss after nasal septoplasty due to direct optic neuropathy. The most cases were related to local injection of adrenaline and lidocaine in nasal mucosa in site of surgery [1]. A similar case report that reported in Serbia in 2014 report a 27 years old female with unilateral (left eye) vision loss after nasal septoplasty due to fracture of the upper and lateral walls of the left sphenoid sinus with the bone fragment compressing the left optic nerve, during endoscopic sinus surgery [2]. Kim et al reported devastating orbital complications following the endoscopic sinus surgeries are rare, one of the most serious is optic nerve injury. This author study analyzed 3 cases of optic nerve injury after endoscopic sinus surgery, all cases no improvement of visual acuity was observed in spite of intra venous corticosteroid treatment. The author suggested surgeons repeatedly to investigate the site and direction of the endoscope during surgery to prevent optic nerve injury and have a precise knowledge of detailed anatomy on site of surgery [3]. Cancaya et al present a 26 years old male who presented unilateral mydriasis while doing septoplasty under local anesthesia. The mydriasis improved spontaneously in an hour without any sequel. This study mentioned that septoplasty is an operation performed to correct deformities of the nasal septum and serious complications with septoplasty include orbital complications [4]. A case report presented four patients had vision loss after nasal surgery. The causative mechanism was vasospasm. There was each of branch retinal artery occlusion, central retinal artery occlusion, anterior ischemic optic neuropathy and posterior ischemic optic neuropathy. The sub mucosal injection of an anesthetic with epinephrine is considered to be causative mechanism [5].

Elective nasal septoplasty is a frequent otorhinolaryngology surgery. In this case medial wall optic canal fracture and trauma to optic nerve cause to direct traumatic optic neuropathy during nasal septoplasty and endoscopic sinus surgery. There is no known effective treatment for managing this complication, as we didn't see therapeutic response by systemic steroid and erythropoietin in discussed case as mentioned in one of studies. Knowledge about Optic nerve decompression in this patients didn't reported and should investigated in future. Surgical intervention in nasal cavity due to anatomical variations and surrounding nervous and vascular components (optic nerve, internal carotid artery and venous cavernous sinus) require serious caution and particular experience. Because of any fault during surgery causes blindness and baneful complications. Exact knowledge about surrounding critical structures can prevent these complications.

Conclusion

In conclusion unilateral blindness is a rare, baneful complication of nasal septoplasty. Exact knowledge about surrounding critical structures can prevent these complications. To prevent this complication, the Surgeon who decide to do nasal septoplasty should have good knowledge about critical structures and do surgery with serious caution and particular experience.

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