

# Empty Sella Turcica and Papilloedema: Two Cases Reports

Dr. Hari Bikram Adhikari

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## Abstract

To report a case of papilloedema with partial empty sellaturcica. Methods: Retrospectively review the clinical features, magnetic resonance imaging records and treatment effects of a patient using Methylprednisolone. Conclusions: MRI is the preferable imaging technique for patient with papilloedema.

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*Index terms*— empty sella syndrome, papilledema.

## 1 Introduction

ellaturcica is a saddle shaped compartment in base of the skull which accommodates the pituitary gland. The empty sellaturcica occurs when there is a leakage of cerebral spinal fluid (CSF) leading to flattening and displacement of the pituitary gland. When pituitary gland is flattened and MRI cannot detect the gland it is known as Empty Sella syndrome (ESS). There are two types of ESS: Primary and secondary. Primary empty sella syndrome occurs when there is defect in diaphragmatic sella allows CSF and presses the pituitary gland. Secondary empty sella syndrome occurs when the pituitary gland is damaged by some other cause like tumor, surgery or radiation therapy (Aruna et al., 2014). The prevalence of primary sella in general population has been reported to be 8-35% (Aruna et al., 2014). The incidence has been reported more in females, the ratio being 5:1 (Aruna et al., 2014).

## 2 Case 1

A young male presented to us with complaint of blurring of vision and occasional double vision since 1 week. He did not complaint of headache, vertigo nor tinnitus. On examination his visual acuity in both eyes were 6/6. His eyebrows and eyelids were in normal position. Extraocular eye movement were full in all gazes except in dextroversion. Cornea and anterior chamber were normal. Pupil in both eyes were round, regular, reacting to direct and consensual light reflex equally. Lens were clear and normal position in both eyes. Vitreous were clear in both eyes. On Fundus examination of both eyes revealed disc margin blurred and elevated. Cup were obliterated. Venous pulsation were absent. Retinal veins looked engorged and tortuous. Disc hemorrhages were also seen.

Color vision test with ishihara chart were normal in both eyes. Humphrey visual field showed enlarged blind spot and peripheral scotoma in both eyes. Diplopia charting showed uncrossed horizontal diplopia with maximum separation at dextroversion.

Haematological test showed total count, differential count, haemoglobin, within normal limit. Biochemical test showed Random blood sugar and Serum creatinine within normal limit. Serological test for HIV, HCV AND HbsAg were negative.

With above mentioned clinical findings clinical diagnosis of both eye disc edema and right eye lateral rectus paresis were made. To rule out any intracranial pathology patient was sent to perform MRI. MRI showed partial empty sellaturcica.

Patient was admitted and treated with Injection Methylprednisolone 1gm Intravenous for 3 days. Along with it Proton pump inhibitors was also given orally.

## 3 Case 2

An adult male aged 53 years presented to us with blurring of vision since 15 days in left eye. No history of redness, pain nor any trauma. There is no history of any systemic disease. On examination his vision in right

45 eye was 6/6 and in left eye HM+(Hand movement). Extraocular movements were full in all gazes and painless.  
46 Anterior segment was normal. On fundus examination in right eye Disc was sharp margin pink in color, macula  
47 was normal with normal foveal reflex except myelinated nerve fiber layer in inferior temporal branch. In left  
48 eye disc was edematous with blurring and elevation of margin, cup was obliterated, vessels were tortuous. He  
49 was sent for MRI scan of head and orbit which showed isolated empty sella. He was admitted in hospital for  
50 intravenous methylprednisolone injection for 3 days followed by oral steroid for 11 days. Proton pump inhibitors  
51 were also given simultaneously.

52 The patient again appeared in our hospital after 6 month. On examination his vision in right eye was 6/6  
53 and in left eye was HM. Extraocular movement were normal anterior segment was normal in both eyes except  
54 pupillary reaction. Relative afferent pupillary defect was noticed in left eye. On fundus examination right eye  
55 was normal. Left eye disc was pale in color, sharp margin, Vessels were attenuated, nerve fiber layer was thinned  
56 out.

## 4 II.

## 5 Discussion

59 Empty sellaturcica is a rare disorder. We searched through Pubmed using EndNote 7 and found only 153 articles  
60 since year 1955 till 2019. Very few articles were retrieved while searching for empty sellaturcica and papilloedema.  
61 Papilloedema caused by empty sellaturcica has been reported by Wang, Jianming (Wang et al., 2008). The empty  
62 sellaturcica is caused by intrasellar herniation of CSF resulting in flattening of the pituitary gland (Saindane et  
63 al., 2013). Papilloedema is a clinical diagnosis while empty sellaturcica is a radiological finding.

64 Papilloedema and clinical features of raised intra cranial pressure(ICP) would have led us to suspect Idiopathic  
65 intracranial hypertension(IIH). However our patient did not have any symptoms of raised ICP like headache,  
66 vertigo, Tinnitus etc. Moreover our patient was male at age of 27 years and 53 years. IIH is more common in  
67 obese female aged 20-40 years. (Victorio and Rothner, 2013, Saindane et al., 2013). Increased fat in scalp and  
68 neck region seen in MRI has been described in cases of IIH (Saindane et al., 2013). Our patient did not show  
69 such findings in MRI.

70 Papilloedema has also been reported in case of Harada syndrome (Nawasiwatte et al., 2012). Thanh-  
71 Thao Adriana Le reported a case of Vogt-Koyanagi-Harada (VKH) syndrome with bilateral papilloedema and  
72 neurological findings (Le et al., 2019). VKH is an autoimmune disease characterized by ocular (choroiditis),  
73 neurological (meningoencephalitis) and integumentary (vitiligo, inner ear) findings. VKH is more common in  
74 dark skin women of any age. However our both patients did not show the sign and symptoms of VKH syndrome.

75 Shrestha et al reported a case of ocular cysticercosis with multiple disseminated subcutaneous nodules on the  
76 body with bilateral papilloedema with multiple calcified cyst and scolex in brain on computed tomography (CT)  
77 scan (Shrestha and Shrestha, 2019).

## 6 III.

## 7 Conclusion

80 These are two rare different presentations of empty sella syndrome with disc edema. The cause of disc edema was  
81 not known to us.

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- 82 [ Yan Ke Xue Bao] , *Yan Ke Xue Bao* 24 p. .
- 83 [Wang et al. ()] , J Wang , N Hui , Y Fan , X Li , N Sun . 2008. (A case of papilloedema caused by primary  
84 empty sella turcica syndrome)
- 85 [Victorio and Rothner ()] ‘Diagnosis and treatment of idiopathic intracranial hypertension (IIH) in children and  
86 adolescents’. M C Victorio , A D Rothner . *Curr Neurol Neurosci Rep* 2013. 13 p. 336.
- 87 [Shrestha and Shrestha ()] ‘Disseminated neurocysticercosis with bilateral papilledema: a case report’. R  
88 Shrestha , A K Shrestha . *J Med Case Rep* 2019. 13 p. 295.
- 89 [Saindane et al. ()] ‘Factors determining the clinical significance of an ”empty” sella turcica’. A M Saindane , P  
90 P Lim , A Aiken , Z Chen , P A Hudgins . *AJR Am J Roentgenol* 2013. 200. p. .
- 91 [Nawasiwatte et al. ()] ‘Neck stiffness and papilloedema due to Harada syndrome’. B M Nawasiwatte , R  
92 Premaratna , B Amarasinghe , De , H J Silva . *Ceylon Med J* 2012. 57 p. .
- 93 [Aruna et al. ()] ‘Partial empty sella syndrome: a case report and review’. P Aruna , B Sowjanya , P A Reddy ,  
94 M Krishnamma , J N Naidu . *Indian J Clin Biochem* 2014. 29 p. .
- 95 [Le et al. ()] ‘Vogt-Koyanagi-Harada syndrome presenting with bilateral optic disc swelling and leptomeningeal  
96 enhancement’. T A Le , S Simon , J Gilotra , P Hissaria . *BMJ Case Rep* 2019. p. 12.