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Idiopathic Intracranial Hypertension with Presentation of Optic Disc Edema: A Case Report

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ABSTRACT
Idiopathic Intracranial Hypertension is a disorder of unknown etiology characterized by chronically elevated intracranial pressure (ICP) and the most important neurological manifestation is papilledema. If left untreated, chronic papilledema may lead to secondary progressive optic atrophy, visual field loss and ultimately blindness. In the current scenario of increasing number of IIH cases and its strong correlation with obesity a reevaluation of trends in IIH are needed to improvise the quality of health care provided to the patients. Here, a female patient was admitted with complaints of headache for 2 weeks and upon her neurological and ophthalmic examinations, it was concluded with the diagnosis of Idiopathic Intracranial Hypertension. She was treated in a private hospital withdiuretics and analgesics. Upon being symptomatically relieved and clinically stable, the patient was discharged.

I. INTRODUCTION

Idiopathic Intracranial Hypertension, also known as Pseudo-tumor cerebri (PTC) is a disorder caused by elevated CSF pressure in the brain for no obvious reasons. Pseudo tumor cerebri can occur in children and adults but it occurs most frequently among obese women of child bearing age [1]. IIH is strongly associated with obesity and female gender in reproductive age. There are numerous hypotheses regarding the etiology of IIH which includes increased CSF formation and decreased CSF absorption[6].

The most common sign of IIH is a sudden severe headache followed by other symptoms like tinnitus (ringing in the ears), temporary blindness, shoulder pain, diplopia and papilledema with its associated loss of sensory visual function.The modified Dandy criteria used for the diagnosis of IIH include the presence of raised ICP, typically papilledema, normal MRI and normal cerebrospinal fluid composition with elevated opening pressure [4]. Lumbar Puncture (LP) was performed in all suspected patients and CSF opening pressure was measured and is considered to be high if it is equal to or above 250mm water [7]. The risk factor associated with pseudo-tumor cerebri is obesity, in which obese women of child bearing age are more likely to develop the disease. The treatment includes weight loss programs for obese patients and medications include Acetazolamide which is a first drug of choice with significant efficacy. Diuretics are also used in IIH either alone or in combination with Acetazolamide [3].

KEY WORDS
Idiopathic Intracranial Hypertension, Pseudo motor cerebri, ICP,CSF.

II. CASE REPORT

A 28 year old female patient was admitted with complaints of headache for 2 weeks and also had past medical history of Hypothyroidism for last 12 years. On general examinations, the patient was conscious and oriented, Glasgow Coma Scale (GCS) was 15/15 with normal speech and comprehension. Upon Ophthalmic examinations, the patient was having bilateral pappilledema along with right eye disc edema and left eye disc

edema. The sensorimotor and other systemic examinations were unremarkable. Her laboratory investigations showed slight elevation of Triglycerides (169mg/dl).

The patient was subjected to Lumbar Puncture (Spinal Tap) under strict aseptic conditions. Six bottles of Cerebrospinal fluid was collected and sent for study. Upon Lumbar Puncture, it was found that the CSF pressure was approximately 53 cm water and the biochemistry of CSF revealed Albumin (13.3mg/dl), LDH (60U/L), Protein (41mg/dl), Sugar (57mg/dl).

Based on the above mentioned subjective and objective data, the condition was diagnosed as Idiopathic Intracranial Hypertension (IIH).

The patient was initially treated with Carbonic anhydrase inhibitors, Analgesics and Corticosteroids. On day 1, the patient was given T.ACETAZOLAMIDE 250mg (1-1-0.5), a pain medication T.ACETAMINOPHEN 650mg (1-1-1) and T.PANTOPRAZOLE 40mg (1-0-0). Since the patient was having previous history of Hypothyroidism, a past medication of T.THYRONORM 150mcg was given in the morning on empty stomach and it was continued as such in the course of hospital.

On day 2 the patient was subjected for lumbar puncture and after that the patient was administered with single doses of Inj. ACETAMINOPHEN 1gm and Inj. DEXAMETHASONE 4mg.

Besides these medications, the physician suggested to seekadvice from dietician for weight reduction. Upon the last day in hospital, the patient's headache was subsided and all vitals were stable. The patient was clinically stable hence discharged.

III. DISCUSSION

Idiopathic Intracranial Hypertension is a clinical condition which is characterized by elevated cerebrospinal pressure which may not have a clear etiology but usually occurs more in obese women in their child bearing years. The clinical presentations of IIH includes headache which is the primary and most commonly presented symptom. Other clinical manifestations include transient visual obscurations and pulse synchronous tinnitus. The cardinal sign of IIH is papilledema, optic disc edema directly or indirectly contributes to vision loss in Idiopathic Intracranial Hypertension.

Our patient was presented with complaints of headache for two weeks and further investigations showed the presence of bilateral pappilledema and CSF pressure was 53cm of water which is above the normal limits in adults.The findings which favor the diagnosis of IIH include the opening CSF pressure measured in lumbar puncture. Upon hospitalization, the patient was treated with carbonic anhydrase inhibitors, analgesics and corticosteroids.

A case report by Cole Swiston MSIV et.al[8] presents a case of a 27 year old pregnant woman who was presented with the chief complaint of one week history of peripheral vision loss in both eyes along with the complaints of left sided throbbing headache, pain behind her eye and associated neck pain. Upon examinations, possible papilledema was noted and the patient was subjected to lumbar examinations which revealed an opening pressure of 56cm H_2O. CSF glucose, protein and WBCs were within normal limits. After considering with the maternal fetal medicine, the medical team decided to treat with acetazolamide and upon symptomatic relief of symptoms, the patient was discharged.

Another case report by Anupam Ghimire et.al[9] presents a case of a 31 year old male patient presented with the complaints of headache for two weeks. The headache was associated with the obscuration of vision in both eyes for around a minute several times per day. The fundoscopy examination revealed bilateral optic disc edema with hyperemia. Lumbar puncture was performed and an opening pressure of 60 mm Hg was noted. The management of the patient was mainly focused on to alleviate symptoms and the patient's mainstay medical treatment included Acetazolamide along with weight reduction diets showed a significant improvement in symptomatic relief and vision loss.

In our case, the significant criteria which lead to the diagnosis was bilateral papilledema and the presenting symptoms along with the age group and gender of the patient. The patient was treated on the basis of the standard treatment guidelines which includes pharmacological treatment with carbonic anhydrase inhibitors, analgesics and corticosteroids and non-pharmacological treatment like weight reduction diets showed significant improvements in the patient. Upon the complete symptomatic relief and clinical stability the patient was discharged.

IV. CONCLUSION

Idiopathic Intracranial Hypertension is an uncommon disorder in which is caused by elevated CSF pressure in the brain for no obvious reasons. Here, the patient was admitted with headache and was subjected for general examinations and her ophthalmic examinations which revealed right and left disc edema and bilateral pappilledema.Upon this Lumbar puncture test, it was found that the CSF pressure was approximately 53cm of water.The patient was treated with carbonic anhydrase inhibitors, analgesics and corticosteroids. Besides these medications, the patient was advised to seek guidance from dietician for the purpose of weight reduction as a

major supportive therapy. Upon the last day in hospital, the patient's headache was subsided with all vitals stable and within normal limits. The patient was clinically stable hence discharged.

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