

Case Study on Idiopathic Intracranial Hypertension

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Abstract

Idiopathic Intracranial Hypertension IIH is a disorder of elevated cerebrospinal fluid pressure due to the unknown cause. The signs and symptoms are normal mental status with no localizing neurologic findings, increased cerebrospinal fluid pressure (Non obese may have >200 mm H₂O, in the obese may have > 250 mm H₂O), fatigue, headache, loss of peripheral vision, nausea and vomiting, shoulder and neck pain, temporary blindness, tinnitus. IIH is a potentially blinding condition that results in papilledema from increased intracranial pressure. Interestingly, both IIH and glaucoma produce similar visual field defects. Diagnosis of diabetes also doubles the risk for developing glaucoma. If left untreated, glaucoma can seriously impair the vision, and cause partial or total blindness.

Keyword: Idiopathic; Papilledema; Glaucoma; Intra cranial pressure.

INTRODUCTION

Idiopathic intracranial hypertension IIH means there is building up of CSF around the brain and spinal cord. "Idiopathic" means the cause is not known, "intracranial" means in the skull, and "hypertension" means high pressure. IIH happens when high pressure around the brain causes symptoms like vision changes and headaches.¹ Diabetes mellitus is a chronic disease related to

abnormal insulin production, impaired insulin utilization, or both. Diabetes is the leading cause of adult blindness, and end stage kidney failure.²

A diagnosis of diabetes also doubles the risk for developing glaucoma. If a person affected with glaucoma, the retina and optic nerve are affected by building pressure around the eye. If left untreated, glaucoma can seriously impair the vision.³ The term glaucoma refer to a group of ocular conditions characterized by elevated Intra Ocular Pressure (IOP). If left untreated the increased IOP damages the optic nerve and may cause loss of vision in some patients.⁴

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CASE REPORT

A 43 year old male admitted in the medical ward with the complaints of uncontrolled diabetes mellitus, loss of vision in left eye, right eye pain, increase duration, thirsty, nausea, vomiting and abdominal discomfort for the past 1 week, and

decreased concentration for 6 weeks. He is an alcoholic (100 ml per day) and smoker (5-6 cigarettes per day). He is a known case of Diabetes Mellitus (DM), Hypertension (HT) for past 5 years and on regular medication for DM (Tablet Metformin 500 mg BD) not on any treatment for HT. Known case of IIH and Glaucoma for past 3 years and started on Tab. Acetazolamide 250 mg, Bd. Due to the

family problem patient stopped taking this tablet for the past one week. So he developed the above symptoms. On admission his BP was 150/100mmhg and laboratory findings showed RBS of 331 mg / dl, FBS of 206 mg/dl. Patient got treated for the hyperglycemia with Inj. Human Actrapid 6U, Subcutaneous, OD.

Disease Condition - Idiopathic Intracranial Hypertension (IIH)

Book Picture	Patient Picture
Causes of IIH^{1,5,6}	
<ul style="list-style-type: none"> Not known. Suspect hormones in young, overweight women. Sometimes children and adults with infection, or using antibiotics, steroids or high doses of vitamin A. Common in 20 to 50 years. BMI above 30 Chronic intracranial hypertension usually because of blood clot or brain tumour, taking certain medicines. 	<ul style="list-style-type: none"> The cause is not known Patient is 43 years old man. Patient BMI: 24.4kg/m²
Clinical manifestation^{5,6}	
<ul style="list-style-type: none"> Alert and oriented No localizing neurologic findings. Flattened globes and fully unfolded optic nerve sheaths. Headache Tinnitus Photophobia Eye pain Vision loss - men with IIH were two times as likely as women to have visual loss. Diplopia Papilledema Visual field loss occurs in almost all cases Nausea and Vomiting Fatigue 	<ul style="list-style-type: none"> Alert and oriented has decreased concentration for past 5 weeks No localizing neurologic findings. — — — — Eye pain Visual loss patient is male — Nausea and vomiting for past 1 week — —
Diagnostic studies⁵⁻⁷	
<ul style="list-style-type: none"> A physical exam CT or MRI scan Lumbar puncture and CSF analysis Visual acuity using snellen chart Vision field Fundoscopy examination 	<ul style="list-style-type: none"> — — — — Not able to read from snellen chart Fundoscopy examination showed lack of blood supply to right eye, and completely absence of blood supply to the left eye.

table cont.....

Management^{5,6,8}

- Weight loss
- Steroids-occasionally used but their mechanism of action is not clear.
- Acetazolamide: 0.5 to 1 gram a day and increased gradually to maximum 3-4 grams per day. It reduces CSF formation
- Furosemide
- Patient has normal BMI 24.22kg/m²
- Tab. Acetazolamide 250mg, bd

Surgical Management⁵

- Subtemporal or suboccipital decompression
- Optic nerve sheath fenestration
- CSF Shunting Procedures
- Gastric exclusion surgery
- Venous sinus stenting
- Patient did not undergo any surgical management

CONCLUSION

Idiopathic intracranial hypertension, Diabetes mellitus, and glaucoma causes severe optic nerve dysfunction. Regular follow-up can control glaucoma and IIH symptoms. The cause of IIH remains unknown, but loss of vision is common and patients may progress to blindness if left untreated. IIH patient management includes medical and surgical management. Proper treatment may prevent or reverse vision loss. But there is no standard therapy available for IIH.

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