

INTRODUCTION

Elevated intracranial pressure (ICP) is a potentially devastating complication of neurologic injury. Elevated ICP may complicate trauma, central nervous system (CNS) tumors, hydrocephalus, hepatic encephalopathy, and impaired CNS venous outflow. Intracranial pressure is normally ≤ 15 mmHg in adults, and pathologic intracranial hypertension (ICH) is present at pressures ≥ 20 mmHg. We describe a case of a 36 years old man, active bodybuilder, who after a car accident starts to develop multiple intermittent episodes of blurred vision, lasting few second, without nausea, vomiting or headache.

CASE DESCRIPTION

The patient was referred to the emergency department of another hospital for neurological assessment in February 2016. A CT was performed and found to be normal. A dilated fundus examination using a direct ophthalmoscope demonstrated bilateral disc swelling. The patient was discharged with indication to start Prednisone 25mg die.

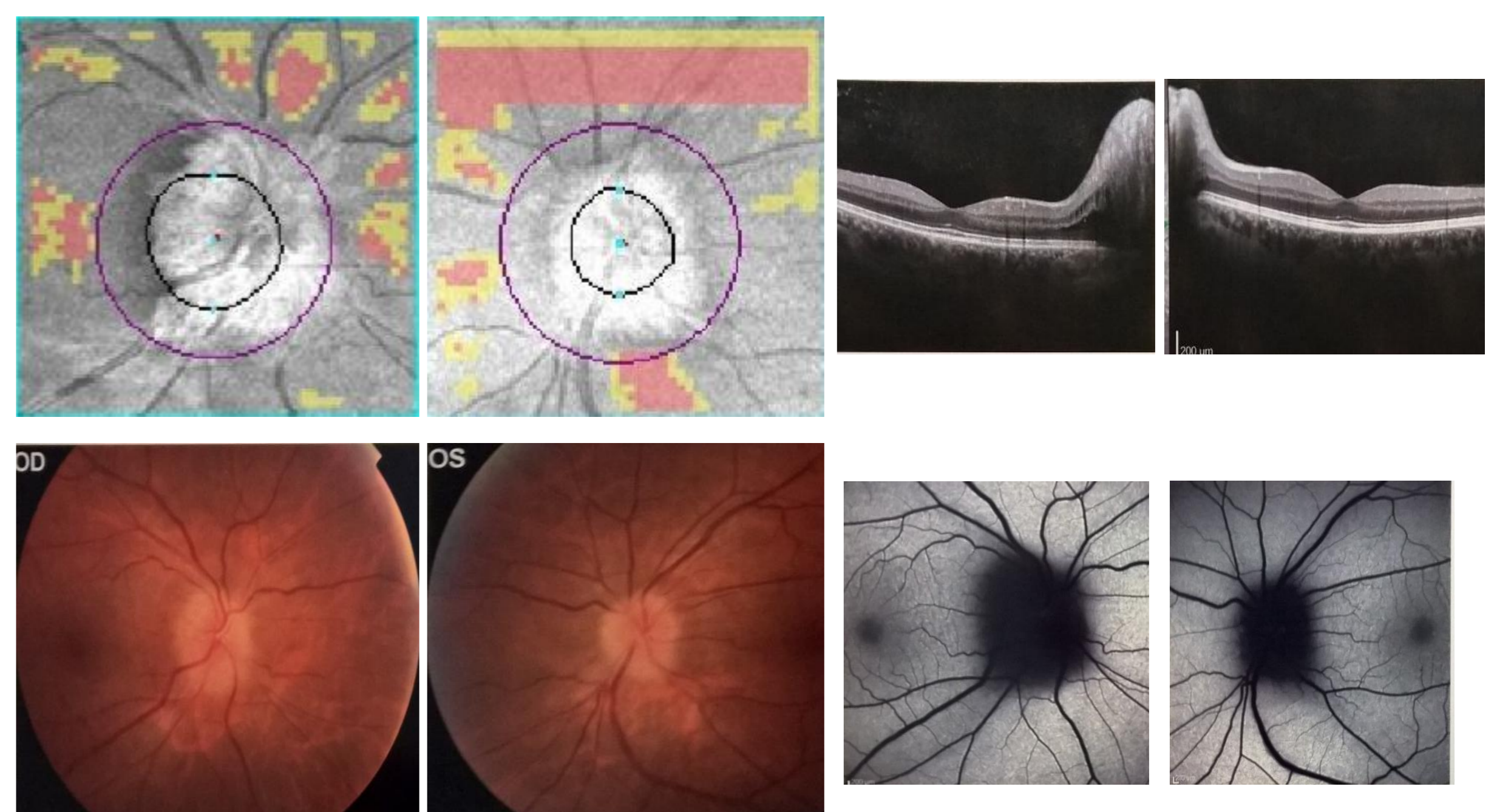
He eventually was admitted to our hospital due to the persistence of symptoms. In our department a **lumbar puncture** performed in sitting position showed an **opening pressure of 33 mmHg (n.v. 16-24 mmHg)** with a normal concentration of glucose and 2 cells/ul in the cerebrospinal fluid (CSF). Brain magnetic resonance imaging (MRI) of the did not show intracranial lesions nor ventricular enlargement. Angio-MR ruled out venous sinus thrombosis and Visual Evoked Potentials were reported as normal. Thus we excluded other possible causes like endocrine disorders, other exogenous agents, infectious or postinfectious diseases, lymphoproliferative disorders and other forms of disimmunity.

Therefore a therapy with acetazolamide 250 mg two times a day was started with full recovery of visual symptoms. The patient was then discharged with indication to attend a neuroophthalmological follow-up examination within one month.

Pharmacological Anamnesis:

Testoviron
Nandrolone
Testovis i.m. 2-3 per week
Trembolone i.m. 2 per week
Gonase
GH i.m. 2.4 U die
Insulina s.c. 5 U per day
High dosage of vitamin A

| Amount Per Serving | | % DV* |
|---|-----------|--------|
| Vitamin A (Fish Liver Oil) | 10,000 IU | 200% |
| Vitamin D (Fish Liver Oil) | 400 IU | 100% |
| Vitamin C (with Rose Hips) | 1,000 mg | 1,667% |
| Vitamin E (D Alpha Tocopherol) | 400 IU | 1,333% |
| Vitamin B1 (Thiamin Mononitrate) | 100 mg | 6,667% |
| Vitamin B2 (Riboflavin) | 100 mg | 5,882% |
| Vitamin B6 (Pyridoxine Hydrochloride) | 100 mg | 5,000% |
| Vitamin B12 (Cyanocobalmin) | 100 mcg | 1,667% |
| Pantothenic Acid (Calcium Pantothenate) | 100 mg | 1,000% |
| Niacin (Nicotinamide) | 100 mg | 500% |
| Biotin | 100 mcg | 33% |
| Folic Acid (Folate) | 400 mcg | 100% |
| Calcium (Carbonate) | 500 mg | 50% |
| Magnesium (Magnesium Oxide) | 250 mg | 63% |
| Iron (Amino Acid Chelate) | 15 mg | 83% |
| Zinc (Amino Acid Chelate) | 11.5 mg | 77% |
| Copper (Amino Acid Chelate) | 1,500 mcg | 75% |
| Manganese (Amino Acid Chelate) | 500 mcg | 25% |
| Iodine (Kelp) | 75 mcg | 50% |



CONCLUSIONS

There are a few cases of paediatric intracranial hypertension due to the administration of Growth Hormone and some reports of pseudotumor cerebri associated with hypervitaminosis. In this case, the only identified association was excess intake of both vitamin A and GH. Pseudotumour cerebri may be idiopathic or secondary. Clinicians must take care to exclude secondary causes of raised intracranial pressure in all patients, but in particular in men, children and women of normal body mass index. This case highlights the importance of not underestimating even slight visual impairment and specifically asking about dietary intake and supplements when evaluating a patient with pseudotumour cerebri especially in some patients with high-risk of dietary and parenteral supplements intake as bodybuilders.

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| Obstruction to venous drainage | Orthostatic edema ¹¹³ |
| Cerebral venous sinus thrombosis ^{62,81,83} | Exogenous agents |
| Aseptic (hypercoagulable state) ¹⁷³ | Amiodarone ^{191,192} |
| Septic (middle ear or mastoid infection) | Cytarabine ¹⁹² |
| Bilateral radical neck dissection with jugular vein ligation | Chlordecone (kepone) |
| Jugular vein tumor ^{187,188} | Corticosteroids (particularly withdrawal) ^{124,193,194} |
| Superior vena cava syndrome | Cyclosporine ¹⁹⁵ |
| Brachiocephalic vein thrombosis ¹⁸⁸ | Growth hormone ¹⁹⁶⁻²⁰⁰ |
| Increased right heart pressure | Leuprorelin acetate (LH-RH analogue) ²⁰¹ |
| Following embolization of arteriovenous malformation ¹⁸⁹ | Levothyroxine (children) ^{202,203} |
| Endocrine disorders | Lithium carbonate ²⁰⁴ |
| Addison disease ¹⁹⁰ | Naladixic acid ^{205,206} |
| Hypoparathyroidism | Levonorgestrel (Norplant) ^{184,207,208} |
| Obesity, recent weight gain ¹¹¹ | Sulfa antibiotics |
| Following childhood varicella ^{240,241} | Tetracycline and related compounds ²⁰⁹⁻²¹⁸ |
| Other medical conditions | Minocycline ¹⁹⁻²²² |
| Antiphospholipid antibody syndrome ²⁴²⁻²⁴⁴ | Doxycycline ²²³ |
| Behçet disease ²⁴⁵⁻²⁴⁷ | Vitamin A ^{211,224-226} |
| Occult craniostenosis ²⁴⁸ | Vitamin supplements, liver |
| Polycystic ovary syndrome ²⁴⁹ | Cis-retinoic acid (Accutane) ^{211,227-231} |
| Sarcoidosis ²⁵⁰ | All-trans-retinoic acid (for acute promyelocytic leukemia) ²³²⁻²³⁵ |
| Obstructive sleep apnea ²⁵¹⁻²⁵³ | Infectious or Postinfectious |
| Systemic lupus erythematosus ^{254,255} | HIV infection ²³⁶⁻²³⁸ |
| Turner syndrome ²⁵⁶ | Lyme disease ²³⁹ |

Deborah I. Friedman *The Pseudotumor Cerebri Syndrome*

REFERENCES

Pseudotumor Cerebri in Children Receiving Recombinant Human Growth Hormone. Adam H. R. et al.
Sight-threatening pseudotumour cerebri associated with excess vitamin A supplementation. Benzmira JD et al.