MMSL
Military Medical
Science Letters

Mil. Med. Sci. Lett. (Voj. Zdrav. Listy) 2012, vol. 81(4), p. 188-189
ISSN 0372-7025
DOI: 10.31482/mmsl.2012.026

LETTER TO THE EDITOR

METHANOL-INDUCED BLINDNESS TREATED BY ERYTHROPOIETIN; A RAY OF HOPE IN THE DARKEST OF CLOUDS

Dear Editor

It has previously been shown that in methanol-induced toxic optic neuropathy with absolute blindness, recovery is rare, and almost never happens fully (1, 2). In other words, we have shown that after general management of acute methanol intoxication, patients with methanol-induced blindness can be grouped into three categories; 1: patients who are blind at the time of discharge and partially recover within a maximum of 3–4 weeks; 2: patients who are blind at the time of discharge and gain no improvement in their vision; and 3: patients who are blind at the time of discharge, partially recover within a few days to approximately 1 month, and experience reduced vision and blindness after about a maximum of 9 months (2). Interestingly, to date, only two reported cases of methanol-induced blindness have completely recovered. In one of these cases, treatment regimen included fomepizol, ethanol, and hemodialysis and the patient's blindness recovered from the day 14th after methanol poisoning on. The authors have emphasized the role of fomepizol in this case (3). Blindness in the other case recovered seven weeks after acute poisoning by the administration of prednisolone and vitamin B1 (1). Of note, there are controversies about the effect of corticosteroids and vitamins on methanol-induced blindness (4-8). Drs Pakravan and Sanjari (9) recently presented two cases of methanol-induced toxic optic neuropathy with absolute blindness and their successful treatment with 10,000 IU of intravenous erythropoietin twice a day for 3 days, 500 mg of methylprednisolone twice a day for 5 days (followed by 2 weeks of oral prednisolone [1 mg/kg per day]), and daily doses of vitamin B12, vitamin B6, and folic acid for 1 month. However, their two cases are extreme exceptions since their absolute blindness recovered (completely or partially) in the shortest possible period from methanol ingestion after treatment with combination of erythropoietin, corticosteroids, and vitamins therapy. In their first patient, visual acuity improved to 20/20 in both eyes within 3 days and in the second patient, visual acuity returned to counting fingers at 6 feet in the right eye and 20/30 in the left eye within 3 weeks. Therefore, it seems this novel treatment regimen has been accompanying significant success in the recovery of blindness of such patients.

CONFLICT OF INTEREST STATEMENT

None to declare.

REFERENCES

1. Rotenstreich Y, Assia EI, Kesler A. Late treatment of methanol blindness. *Br J Ophthalmol*. **1997**, 81, 416-717.
2. Sanaei-Zadeh H, Zamani N, Shadnia S. Outcomes of visual disturbances after methanol poisoning. *Clin Toxicol (Phila)*. **2011**, 49, 102-107.
3. Sivilotti ML, Burns MJ, Aaron CK, McMartin KE, Brent J. Reversal of severe methanol induced visual impairment: no evidence of retinal toxicity due to fomepizole. *J Toxicol Clin Toxicol*. **2001**, 39, 627–631.
4. Sanaei-Zadeh H. Optical coherence tomography of the macula and optic nerve in methanol-intoxicated patients and the effect of intravenous corticosteroids on their visual disturbances. *Int Ophthalmol*. **2012**; DOI: 10.1007/s10792-012-9527-3
5. Sanaei-Zadeh H. What Are the Therapeutic Effects of High-Dose Intravenous Prednisolone in Methanol-Induced Toxic Optic Neuropathy? *J Ocul Pharmacol Ther*. **2012**, 28 ,327-8
6. Sanaei-Zadeh H, Zamani N. A case of optic nerve atrophy with severe disc cupping after

methanol poisoning. *Korean J Ophthalmol*. **2011**, 25, 463
7. Sanaei-Zadeh H. Is high-dose intravenous steroid effective on preserving vision in acute methanol poisoning? *Optom Vis Sci*. **2012**, 89, 244.
8. Sanaei-Zadeh H. How should the ophthalmologist treat the methanol-induced toxic optic neuropathy? *Nepal J Ophthalmol*. **2012**, 4, 348-350.
9. Pakravan M, Sanjari N. Erythropoietin Treatment for Methanol Optic Neuropathy. *J Neuroophthalmol*. **2012**; DOI: 10.1097/WNO.0b013e318262a7c2

✉
Assoc. Prof. Hossein Sanaei-Zadeh, MD
Medical School
Shiraz University of Medical Sciences
Emergency Room/Division of Medical Toxicology
Hazrat Ali-Asghar (p) Hospital
Meshkinfam Street
Shiraz 7143918796
Iran
Tel/fax: +98 711 2288602
e-mail: h-sanaiezadeh@tums.ac.ir

Received 2nd October 2012.
Revised 18th November 2012.
Published 7th December 2012.