

Clinical & Pediatric Nephrology

May 09-10, 2016 New Orleans, USA

Increase intraocular pressure (IOP) during hemodialysis, rare condition: Serious complication

Rula Abdurrahman, Anthony Iluyomade, Denish Pokharel and Rajbir Chopra
St. John's Episcopal Hospital, USA

Introduction: For years, so many complications of hemodialysis have been well documented. However, elevated intraocular pressure (IOP) from HD is an extremely rare finding. In fact, this has led to eyeball evisceration in some cases that were refractory to treatment modalities.

Case: A 53 years old man with hypertension, DM and ESRD on hemodialysis presented to the ER with shortness of breath and edema. He reported failing to complete four sessions of dialysis due to headache and eye pain. The patient mentioned that during the dialysis he was having headache 9/10, which was relieved few hours after stopping dialysis sessions. Pain was associated with nausea and blurry vision. He denied any previous history of laser eye surgery or glaucoma but has had bilateral cataract surgery within the past year. On examination, patient had generalized edema. Vitals were BP: 170/90, Temp: 96.9F, PR: 70 and RR: 20. Lab findings; WBC: 12000, Hemoglobin: 9.8, Platelets: 219000, K=6.5, BUN=92, Creatinine=12.40, Calcium: 10.4, Pro BNP=5760 and EGFR: 5.18. CT head was unremarkable. Urgent hemodialysis was initiated, during which patient became confused and agitated. He started complaining of bilateral eye pain with occipital headache. This prompted for ophthalmology consult. Measured IOP was 38 (right) and 34 (left) mmHg. Optic cups showed temporal pallor in both eyes. Gonioscopy revealed pigment dispersion in the right eye in the trabecular meshwork (part of the aqueous humor drainage system of the eye). Left eye anterior chamber showed no pigment deposition. IOP dropped down to 24 OD (right eye) and 22 OS (left eye) one hour after commencing Alphagan 0.15%, Xalatan and Timolol 0.5% OU with further drop in IOP to 18 bilaterally in two hours. Diamox 500 mg PO TID was also added. After few days of treatment, he was able to tolerate hemodialysis with no more eye pain or headache.

Discussion: Few publications have cited the possibility of hemodialysis leading to elevated IOP especially in susceptible eyes as seen in our patient. However, the pigment deposition (that might be a complication of cataract surgery) was not observed on the left eye. This suggests the possibility of hemodialysis leading to elevated IOP even in a non-susceptible eye. This may happen due to the rapid decrease in serum osmolality leading to shift of fluid from plasma to the aqueous humor as a result of osmotic disequilibrium. Our patient had some occlusions of his trabecular meshwork in the right eye, which could explain the development of his symptoms recently, despite been on hemodialysis for years. Acetazolamide has been used with precautions of metabolic acidosis.

Biography

Rula Abdurrahman is a graduate from the University of Baghdad, School of Medicine, pursued an expansive medical career and research overseas and is currently a PGY2 Internal Medicine Resident at St. John's Episcopal Hospital in Far rockaway, New York. She has worked as Case Manager and Clinical Supervisor in the Italian Red Cross to help the war victims in the Middle East in 2003. She is currently following a path of clinical research with multiple abstracts and case presentations while serving as a Resident Physician.

rula_171980@yahoo.com

Notes: