

The relation between serum Cobalamine, Folate, Photostress recovery time and age related exudative macular degeneration

Javad Heravian (PhD)*¹, Monireh Mahjoob (MSc)², Lida Manavifar (MSc)³

Mirnaghi Mosavi (PhD)¹, Jalil Nejati (BSc)⁴, Fatemeh Mahjoob (MSc)⁵

¹Associate Professor, Department of Optometry, Mashhad University of Medical Sciences, Mashhad, Iran.

²Academic Instructor, Department of Optometry, Zahedan University of Medical Sciences, Zahedan, Iran.

³Academic Instructor, Department of Laboratory Sciences, Mashhad University of Medical Sciences, Mashhad, Iran. ⁴Entomologist. ⁵Medical Student, Mazandaran University of Medical Sciences, Sari, Iran.

Abstract

Background and Objective: Several studies have reported high prevalence of severe lack of cobalamine and Folate in aged people. The most important causes are: malnutrition, atrophic gastritis and drug use. Age related macular degeneration (ARMD) is a primary degenerative disorder of central retinal area with loss of visual acuity. Recent studies have shown a significant relationship between age related macular degeneration and lack of plasma level of Folate, red blood cells and cobalamine. This study was carried out to investigate the relationship between age related macular degeneration and plasma Folate, Cobalamine and photostress recovery time, in elderly population.

Materials and Methods: This case – control study was done on 124 elderly population. The participants were collected from by cluster sampling in mashhad located in the North – East of Iran during 2006. The patients underwent eye examination including indirect ophthalmoscopy. Slit lamp examination and photostress recovery time for age related macular degeneration by an ophthalmologist. After blood sampling, plasma Folate, serum Cobalamine, were determined by RIA method (DRG kit).

Results: The Mean±SD of cobalamin and folate in age related macular degeneration patients was 298.848±288.66 pg/ml and 5.543±3.58 ng/ml and in normal group was 310.775±531.38 pg/ml and 5.365±3.52 ng/ml. There was no significant difference between age related macular degeneration patients and control group. Photostress recovery time was significantly increased in patients with age related macular degeneration (P<0.05). There was no significant relationship between photostress recovery time and Cobalamine and folate level.

Conclusion: This study showed that serum cobalamin and folate non significantly is decreased in age related macular degeneration patients, with increasing photostress recovery time, we can use this screening test for the diagnosis of age related macular degeneration.

Keywords: Folate, Cobalamine, Aged related macular degeneration

* Corresponding Author: Monireh Mahjoob (MSc), E-mail: mahjoob_opt@yahoo.com

Received 2 Aug 2008

Revised 15 Dec 2008

Accepted 14 Jan 2009