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## New insights in the pathogenesis of normal tension glaucoma

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Increased intraocular pressure (IOP) is a major risk factor for glaucomatous damage and reducing IOP improves prognosis. Nevertheless, there is little doubt that other risk factors besides IOP such as unstable ocular perfusion are involved. Blood flow is unstable if either the IOP fluctuates at a high level (or blood pressure fluctuates at a low level) or if the autoregulation of blood flow is disturbed. A common cause for a disturbed OBF autoregulation is a primary vascular dysregulation (PVD) also known as the Flammer-syndrome (FS), frequently observed in normal tension glaucoma patients. Patients with FS commonly have increased retinal venous pressures as measured by means of ophthalmodynamometry. An unstable blood flow leads to recurrent mild reperfusion injury (chronic oxidative stress) affecting particularly the mitochondria of the optic nerve head.

## **Recent Publications**

- 1. Vahedian Z, Fakhraie G, Bovet J and Mozaffarieh M (2017) Nutritional recommendations for individuals with Flammer Syndrome. EPMA 8:187–195.
- 2. Vahedian Z, Fang L, Fakhraie G, Amini H, Chiou A, et al. (2017) The effect of borage on retinal venous pressure of healthy subjects with Flammer-Syndrome. JOJ Ophthal 5:(2) 555659.
- 3. Fang L, Neutzner A, Turtschi S, Flammer J, and Mozaffarieh M (2015) Comet assay as an indirect measure of systemic oxidative stress. J Vis Exp. 22(99):e52763.
- 4. Fang L, Turtschi S and Mozaffarieh M (2015) The effect of nifedipine on retinal venous pressure of glaucoma patients with the Flammer-Syndrome. Graefes Arch Clin Exp Ophthalmol. 253(6):935–9.
- 5. Fang L, Baertschi M and Mozaffarieh M (2014) The effect of Flammer-syndrome on retinal venous pressure. BMC Ophthalmol. 14:121.

## Biography

Maneli Mozaffarieh is an Associate Professor and Glaucoma Specialist with particular focus on Microcirculation who completed her specialization with Professor Josef Flammer, former Head of the Department of Ophthalmology at the University of Basel. She currently teaches at the University of Basel and works clinically in Zürich.

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