TARGET: NORMAL TENSION GLAUCOMA

14:30-18:00
Tuesday, September 4, 2012

Moscow
Hotel: «Novotel Moscow Centre»
Novoslobodskaya st. 3

CONFERENCE PROGRAM
It is a great honor to welcome you at the “Target: Normal Tension Glaucoma” conference. There is a type of primary open angle glaucoma which is characterized by optic neuropathy progression and gradual visual field loss in patients with IOP that falls within normal range. This issue is currently becoming more and more pressing leading us to devote our meeting to the discussion of novel discoveries in the field of normal tension glaucoma (NTG).

The participants will touch upon the pathogenesis of NTG. The leading theory is the cardiovascular one, being the most supported by scientific evidence and the number of studies devoted to it. The presentations will include various aspects of NTG diagnostic strategies, signs, as well as management and treatment strategies. We sincerely hope that you will find this conference informative and useful.
Josef Flammer, MD
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Professor, CEO of the University of Basel Ophthalmology Clinic Department of Ophthalmology, University of Basel, Switzerland, specialist in fundamental glaucoma research, one of the creators of modern perimetry. His major scientific achievements include ocular haemodynamics, pharmacotherapy of glaucoma, as well as normal tension glaucoma pathogenesis, diagnostic methods and management.

The role of Josef Flammer’s research in the field of computer perimetry and ocular blood flow in glaucoma has been recognized numerous times resulting in multiple awards and diplomas.

In our country professor Flammer is widely known due to his monograph – “Glaucoma: a Guide for Patients and an Introduction for Care–Providers”.

NOTES

Today nobody doubts the fact that glaucomatous optic neuropathy (GON) progression occurs even with normal IOP. First valid evidence of this was obtained in the multicentral study devoted to NTG (Collaborative Normal Tension Glaucoma Study).

The role of chronic ischemia in GON pathogenesis has been demonstrated by multiple researchers. Recent articles advocate the role of vascular dysregulation in glaucoma progression. Lastly, several new risk factors contributing to glaucoma development and progression have been discovered. Among them are migraine, vasospasm, arterial hyper- and hypotension and nightly drop in blood pressure.

4. Hayreh S.; J. Glaucoma.; 1997; Vol. 6; No. 2; 412-425
8. Hayreh S.; J. Glaucoma.; 1997; Vol. 6; No. 2; 412-425
Ocular blood flow impairment resulting in optic nerve head ischemia is currently recognized as the most credible causes of NTG\(^1\).

C. Phelps and J. Corbett were the first to identify another possible mechanism of NTG development—primary vascular dysregulation (PVD)\(^2\). The evidence for this theory was frequent migraine in NTG patients. It was later proven by other authors\(^3\). Moreover, cooccurrence of NTG and migraine increases the risk of GON progression 2.5 times \(^4\).

Ocular blood flow is known to be relatively independent due to autoregulation \(^5\). However, in patients with PVD autoregulation mechanisms become compromised resulting in ocular perfusion dependent on other factors. Patients with optic nerve ischemia were found to have a link between blood flow regulation and cardiac/respiratory rhythm, in other words, a correlation with heart rate variability parameters \(^6\). Our recent studies show that venous blood flow dysfunction is also characteristic of NTG \(^7\).

Thus, the search for venous blood flow correction is a priority target for future research.

1. Leske M. Cristina; Current Opinion in Ophthalmology; 2009; Vol. 20; 73–78.
6. Бакшинский П.П.; Глаукома; 2007; № 1; 47–58.
7. Курышева Н.И., Трубилин В.Н., Царегородцева М.А. и др.: Офтальмология, 2012; Т. 9, № 1; 44  - 49.
Determining the risk factors for GON progression is a pressing issue in modern ophthalmology. The optimal approach to glaucoma diagnostics and management is based on optic nerve head (ONH) and blood flow evaluation. Therefore mentioned facts justify comprehensive evaluation of structural ONH change, functional deviation by means of automated perimetry and venous pulse in retinal blood vessels in GON prognosis.

The leading role of vascular factors in GON pathogenesis is widely accepted. However, only a small number of studies are devoted to determining the contribution of venous blood flow to GON pathogenesis. The phenomenon of spontaneous venous pulsation which normally occurs quite often (up to 98%) is two times less frequent in glaucoma patients. Notably, its occurrence is independent of IOP.

However, only in NTG the absence of spontaneous venous pulsation is associated with a more severe course of the disease and lower blood flow velocity in the central retinal vein and artery.

1. Волков В.В.; М.; 2008; 352
3. Legler U., Jonas JB; J Glaucoma; 2009; Vol. 18; 210 -212.