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New Pharmacological Treatment Against Diabetic Eye Diseases Is Tested

The so called “diabetic retinopathy” and the “diabetic macular edema” are two of the most frequent ocular diseases in patients with diabetes, and both feature pathologic changes of blood vessel functions in the retina. Experimental data and measurements in patients suggest that these changes in blood vessel functions may originate from a lack of vasoinhibin hormones in the retina. A Mexican-German team of scientists and physicians has now initiated a clinical study in which a new pharmacological therapy is being evaluated, with which the presumptive hormonal dysregulation in the retina might be corrected.

Patients with diabetes mellitus are often affected by diseases of the eye which develop as a long-term consequence of diabetes. Regular ophthalmologic appointments for early detection and initiation of treatment are therefore important. The so called “diabetic retinopathy” and the “diabetic macular edema” are two of the most frequent ocular diseases in patients with diabetes, and both feature pathologic changes of blood vessel functions in the retina.

Experimental data and measurements in patients suggest that these changes in blood vessel functions may originate from a lack of vasoinhibin hormones in the retina. Vasoinhibin hormones can control blood vessel functions and are generated by proteolytic cleavage of their precursor hormone prolactin, also known as the “nursing hormone”.

A Mexican-German team of scientists and physicians has now initiated a clinical study in which a new pharmacological therapy is being evaluated, with which the presumptive hormonal dysregulation in the retina might be corrected. The treatment evaluates the effects of the drug Levosulpiride, which increases the pituitary secretion of prolactin. In consequence, more prolactin is available in the retina where it is converted to vasoinhibins. This might have positive effects on the blood vessels in the retina and may therefore slow down the progression of diabetic retinal diseases and preserve vision.

The treatment of study patients is being performed by ophthalmologists at the Mexican Institute for Ophthalmology (IMO) in Querétaro. The leading scientists of the study are Professor Carmen Clapp Ph.D. from the Institute of Neurobiology of the National University of Mexico (UNAM, Universidad Nacional Autónoma de México) in collaboration with principal investigator and internal medicine specialist and endocrinologist Professor Ma. Ludivina Robles-Osorio Ph.D., M.D. from the University of Queretaro (UAQ, Universidad Autónoma de Querétaro) and principal investigator, ophthalmologist and retina specialist, Dr. Renata García-Franco, M.D. (IMO).

A work group headed by Dr. Jakob Triebel from the University-Institute of Clinical Chemistry, Laboratory Medicine and Transfusion Medicine of the General Hospital Nuremberg and the Paracelsus Medical University, Head: Prof. Dr. Thomas Bertsch, is part of the team of investigators and contributes to the laboratory tests involved in the study. A description of the study, including relevant background information, has been published by the Journal Frontiers in Endocrinology – Section Diabetes as an open access article on May 29, 2018. The study is registered in the public registry for clinical trials at “clinicaltrials.gov” under the identification NCT03161652. The completion of the study, and information on the efficiency of the treatment, are expected in the year 2020.
Further information

ORIGINAL PUBLICATION:

Basis and Design of a Randomized Clinical Trial to Evaluate the Effect of Levosulpiride on Retinal Alterations in Patients with Diabetic Retinopathy and Diabetic Macular Edema

CLINICALTRIALS.GOV EINTRAG / CLINICALTRIALS.GOV ENTRY:
https://clinicaltrials.gov/ct2/show/NCT03161652

FURTHER RELEVANT PUBLICATION:

From Bench to Bedside: Translating the Prolactin/Vasoinhibin Axis
Jakob Triebel, Ludivina Robles-Osorio, Renata Garcia-Franco, Gonzalo Martínez de la Escalera, Carmen Clapp, and Thomas Bertsch

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