NEW INTRAVITREAL TREATMENT FOR DIABETIC RETINOPATHY

INVENTION DESCRIPTION

Diabetic retinopathy (DR) is the main cause of legal blindness in people under 50 years of age in developed countries, and one of the leading causes of blindness in the world.

Numerous studies show that there is an inflammatory problem which acts as the main trigger in DR, attracting leukocytes (specialized cells in the immune response) and leading eventually to failure and loss of vascular endothelium, as well as increased vascular permeability (causing edema) and increased platelet aggregation (contributing to vessel obliteration and retinal ischemia). This opens the door to using of new intravitreal drugs that may be able to avoid activation of molecular inflammatory pathways, and at the same time may achieve a better preservation of retinal vessels that conform the hemato-retinal barrier / blood-retinal barrier (BRB).

The present invention relates to a solution that has been formulated for intravitreal injection, which contains a non steroidal anti-inflammatory molecule and has shown experimentally to have beneficial effects on DR by inhibiting inflammatory triggering factors in an experimental phase, achieving a higher survival rate of endothelial cells and higher preservation of the BRB. Therefore, it could act by preventing the appearance of DME in patients with high risk of developing it, or solving the EMD that is already underway, but it could also avoid the onset of retinal ischemia and progression towards more severe stages of the disease.

BUSINESS APPLICATION SECTORS

This invention can be of great interest to the pharmaceutical industry, considering the need to develop new treatments for DR adapted to the scientific evidence we currently have on metabolic and molecular pathways involved in the development of this disease.

TECHNICAL ADVANTAGES AND BENEFITS

There are currently three biological intravitreal drugs available as treatment for diabetic macular edema (DME). They all block angiogenesis induced by type A vascular endothelial growth factor (VEGF-A). However, none of these drugs modify the clinical course of the disease since they do not prevent microangiopathy nor solve ischemia or alteration of capillary permeability that occur in DR. They all have similar effects, high costs and same limitations. Another available therapeutic option is sustained-release intravitreal steroids, (dexamethasone or fluocinolone). Both steroids have the disadvantage of producing a high rate of side effects, especially an increase of intraocular pressure and cataract formation. Also, there is no evidence that steroids produce better results than biological treatments.

In the case of intravitreal injection containing this new solution, the low cost of obtaining the active ingredient together with experimental evidence of its ability to act simultaneously in various molecular pathways involved in pathogenesis of DR, make it a therapeutic option that could improve cost-effectiveness of treatments currently used.

DEVELOPMENT STATUS OF TECHNOLOGY

The invention has been developed based on an experimental trial with an animal model of DR.

INTELLECTUAL PROPERTY RIGHTS

Patent protected in Spain with priority date 26/05/2015. PCT extension is expected during priority year.

COLLABORATION SOUGHT

License Agreement with companies willing to develop and to market this composition for intravitreal injection in DR.

NEW INTRAVITREAL TREATMENT FOR DIABETIC RETINOPATHY

CONTACT

Unidad de Proyectos e Innovación
FISABIO
Avda. Catalunya, 21. 46010 Valencia
Tel. +34 961925910
E-mail: innovación_fisabio@gva.es
Web: www.fisabio.es