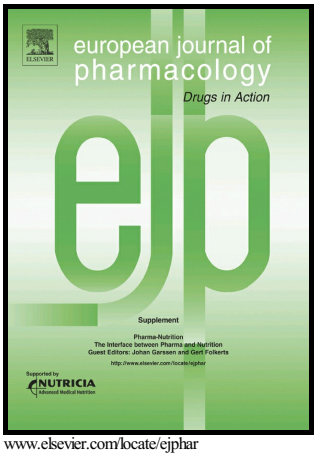
Author's Accepted Manuscript



www.elsevier.com/locate/ejphar

Glucocorticoid Therapy and ocular hypertension

Adnan Dibas, Thomas Yorio

PII: S0014-2999(16)30376-4
DOI: http://dx.doi.org/10.1016/j.ejphar.2016.06.018
Reference: EJP70689

To appear in: *European Journal of Pharmacology*

Received date: 29 March 2016
Revised date: 6 June 2016
Accepted date: 13 June 2016

Cite this article as: Adnan Dibas and Thomas Yorio, Glucocorticoid Therapy and ocular hypertension, *European Journal of Pharmacology* http://dx.doi.org/10.1016/j.ejphar.2016.06.018

Glucocorticoid Therapy and ocular hypertension

Adnan Dibas*, Thomas Yorio
North Texas Eye Research Institute, UNT Health Science Center, Fort Worth, TX, USA
*Correspondence to: Dr. Adnan Dibas North Texas Eye Research Institute University of North Texas Health Science Center at Fort Worth 3500 camp Bowie Blvd Fort Worth, TX. 76107. Tel: 817-735-0268; Fax: 817-735-0243. adnan.dibas@unthsc.edu

ABSTRACT

The projected number of people who will develop age-related macular degeneration in estimated at 2020 is 196 million and is expected to reach 288 million in 2040. Also, the number of people with Diabetic retinopathy will grow from 126.6 million in 2010 to 191.0 million by 2030. In addition, it is estimated that there are 2.3 million people suffering from uveitis worldwide. Because of the anti-inflammatory properties of glucocorticoids (GCs), they are often used topically and/or intravitreally to treat ocular inflammation conditions or edema associated with macular degeneration and diabetic retinopathy. Unfortunately, ocular GC therapy can lead to severe side effects. Serious and sometimes irreversible eye damage can occur as a result of the development of GC-induced ocular hypertension causing secondary open-angle glaucoma. According to the world health organization, glaucoma is the second leading cause of blindness in the world and it is estimated that 80 million will suffer from glaucoma by 2020. In the current review, mechanisms of GC-induced damage in ocular tissue, GC-resistance, and enhancing GC therapy will be discussed.

Key words: glaucoma, glucocorticoids, steroid receptors, trabecular meshwork