



TP53 gene expression, codon 72 polymorphism and human papillomavirus DNA associated with pterygium

F.W. Rodrigues^{1,2*}, J.T. Arruda^{3*}, R.E. Silva^{1,2} and K.K.V.O. Moura^{2,3}

¹Fundação Banco de Olhos de Goiás, Goiânia, GO, Brasil

²Programa de Pós-Graduação Stricto Sensu, Mestrado em Genética, Goiânia, GO, Brasil

³Universidade Católica de Goiás, Departamento de Biologia, Núcleo de Pesquisas Replicon, Goiânia, GO, Brasil

*These authors contributed equally to this study.

Corresponding author: K.K.V.O. Moura

E-mail: katiakarinarav@yahoo.com.br; jalsitacon@yahoo.com.br

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ABSTRACT. Pterygium is a disease of unknown origin and pathogenesis that can be vision threatening. Several researchers believe that pterygium is UV-related and that abnormal expression of p53 protein and infection with human papillomavirus (HPV) are risk factors for pterygium, but their experiments have been inconclusive. We investigated its relation with p53 protein expression, p53 gene codon 72 polymorphism and infection with HPV DNA. Pterygial samples were obtained from 36 patients; 21 normal conjunctival samples were used as controls. Expression of p53 protein was studied by immunohistochemistry, using the antibody DO-7. Analysis for the p53 genotype was made by polymerase chain reaction, using specific primers for the arginine and proline alleles, and an analysis for HPV was made of the pterygium patients and control group. Fourteen of the 36 pterygial specimens were positive for abnormal p53 expression. Thirty-one of the patients were heterozygotic and three were homozygotic for the proline allele; two were homozygotic for the arginine allele; in the control group 12 of 21 were heterozy-

gotic and seven of these 21 were homozygotic for the proline allele; two were homozygotic for the arginine allele. Twenty-one of the pterygium patients were positive for HPV; HPV type 1 was found in nine of these, type 2 in seven and both types in five. Only two of the 21 controls had HPV; both had type 16. We suggest that abnormal expression of p53, p53 codon 72 polymorphisms and HPV DNA are required co-factors for the development of pterygium.

Key words: Pterygia; Brazilian; Ophthalmology