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Comparison of Dry Eye Parameters between Diabetics and Non-Diabetics in District of Kuantan, Pahang

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MALAYSIAN JOURNAL OF MEDICAL SCIENCES
 Volume: 23 Issue: 3 Pages: 72-77
 Published: MAY-JUN 2016
 Document Type: Article

Abstract

Introduction: Diabetes may affect the human body's systems and organs, including the eye. Diabetic retinopathy is the 5th leading cause of blindness globally. Diabetic subjects demonstrated dry eye symptoms that were also supported by the low values of the clinical tests.

Purpose: This study aimed to compare the dry eye symptoms and signs between diabetics and non-diabetics and tear functions between diabetic subjects with and without dry eye.

Methods: This retrospective study was based on the observation of 643 medical files. Using a convenience sampling method, 88 subjects were found to report diabetes mellitus. The information extracted from the files included: date of first examination, age at first visit, gender, past ocular history, systemic disease, symptoms of dry eye disease and details of clinical diagnostic signs. Non-contact lens wearers were excluded. A group of 88, age and gender matched, control subjects were included for this comparison study.

Results: The percentage of dry eye symptoms was higher in diabetic subjects (15.9%) compared with non-diabetic subjects (13.6%; $p < 0.001$). The percentage of dry eye symptoms was also higher in diabetics with dry eye (63%) than in diabetics without dry eye (36.9%; $p < 0.001$). Tear break up time was significantly different between diabetics and non-diabetics ($p < 0.001$) and between diabetics with and without dry eye ($p = 0.046$). The corneal staining was significantly different between diabetic subjects with and without dry eye ($p = 0.028$).

Conclusion: Dry eye symptoms were significantly associated with diabetics. Tear break up time was significantly shorter in diabetics with dry eye compared to diabetics without dry eye.

Keywords

Author Keywords: Diabetes mellitus; dry eye syndromes; cornea; tears; signs and symptoms

KeyWords Plus: TEAR PROTEIN-PATTERNS; CORNEAL EPITHELIUM; RISK-FACTORS; PREVALENCE; MELLITUS; COMPLICATIONS; RETINOPATHY; CHINESE

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Funding

Funding Agency	Grant Number
Islamic University of Gaza	

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Publisher

UNIV SAINS MALAYSIA, SCH MEDICAL SCIENCES, HEALTH CAMPUS, 16150 KUBANG KERIAN, KELANTAN, 00000, MALAYSIA

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