

# 17<sup>TH</sup> ASIA PACIFIC OPHTHALMOLOGISTS ANNUAL MEETING

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### **Genetic profiling of Fuchs' endothelial corneal dystrophy and a retrospective study (2009-2014) in tertiary care setting in Malaysia**

Fuchs' Endothelial Corneal Dystrophy (FECD) is one of the leading causes for the vision loss among middle-aged and elderly subjects as a result of loss of corneal endothelial cells leading to corneal edema. Genetic and environmental factors play an important role for the development of FECD. The Infinium Global Screening Array-24 v1.0 BeadChip combines a multi-ethnic genome-wide content to determine the variants among the various complex disorders. The aim of this study is to know the possibilities of risk factors for the development of FECD and to determine the genetic markers among FECD subjects in Malaysia. A total number of 13 FECD subjects was recruited and matched with controls to analyze the 642,824 biomarkers by global screening assay method. Demographic data, clinical characteristics, the types of treatment received and the outcome of the treatments among FECD subjects were analyzed. Majority of them were females and aged above 40 years old. There were no significant differences were observed between the demographic factors and the clinical parameters ( $p>0.05$ ). We observed non-coding, degenerate and non-degenerated genetic polymorphisms within and between genes. To our knowledge, this is the first comprehensive study in screening the genetic markers among FECD subjects using the Infinium Global Screening assay in Malaysia. The findings of this study shows that the correlation of individual genotypes with unique rates of disease progression and management can lead to primary and secondary-prevention efforts can be initiated. Moreover, the Infinium Global Screening Array-24 v1.0 BeadChip provides a cost-effective solution for variant screening, and precision medicine research.

#### **Biography**

Fazliana has completed her MBBS and Postgraduate Masters Training in University of Malaya, Malaysia. Soon after her graduation, she grew a keen interest in oculoplasty and orbital surgeries. Currently, she does oculoplasty works in University Malaya Medical Centre. She is a Lecturer attached to University of Malaya, involved in teaching the medical and nursing students as well as the Masters in Ophthalmology trainees. She has also published in several journals and involved in several research projects. Apart from that, she is a twice recipient of Fundamental Research Grant Scheme (FRGS) in Malaysia. Most of her research projects are involving Genetics and Molecular Medicine.

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