

AB025. *PDGFRA* gene polymorphism and corneal curvature in Indonesian people with astigmatism

Mitayani Purwoko, Indri Ramayanti, Hasmeinah Roesad

Medical Biology, Medical Faculty, Muhammadiyah Palembang University, Sumatera Selatan, Indonesia

Background: Astigmatism is a refraction error that could be caused by anomaly in corneal curvature. *PDGFRA* gene could be associated with astigmatism because the protein is contributed in corneal structure. This study aimed to find the association between single nucleotide polymorphisms (SNP) rs17084051 C > A on platelet-derived growth factor receptor alpha (*PDGFRA*) gene with corneal curvature in Indonesian people who had astigmatism.

Methods: This was a descriptive observational study using cross-sectional design. This study recruited 73 people with inclusion criteria: male or female minimum 18 years old with astigmatism on both eyes, never had surgery on both

eyes, and did not have other than Indonesian ancestors. Only 57 DNA samples were included in amplification refractory mutation system (ARMS) PCR. DNA post PCR was visualized on agarose gel and gel doc.

Results: Astigmatism age of onset on average was 8.5 years old. Subject with family history of astigmatism was 41.10%. Corneal curvature for right and left eyes on average was 7.73 ± 0.23 and 7.72 ± 0.24 mm, respectively. Allele distribution were CC (49.12%), AA (8.77%), and CA (42.11%). Wild-type allele frequency C was 70.18% and mutant allele frequency A was 29.82%. The p-value for association between mutant allele of rs17084051 and corneal curvature of right and left eyes were 0.191 and 0.501 ($P > 0.05$).

Conclusions: Steeper corneal curvature in Indonesian people who had astigmatism were not caused by mutant allele rs17084051 C > A, but maybe caused by other factors.

Keywords: Platelet-derived growth factor receptor alpha (*PDGFRA*); rs17084051; astigmatism; polymorphism; corneal curvature

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