Pterygium Updates: Comprehensive Morphological Evaluation Using Anterior Segment Imaging

Mohd Radzi Hilmi, International Islamic University Malaysia (IIUM), MY

Abstract (300 word limit)

Statement of the Problem: Pterygium is a common but yet difficult to predict its progression. Diagnosis, especially with small fibrovascular tissue and wide ranges of clinical signs and symptoms somehow leads to inconclusive management of pterygium. First line treatments often include ophthalmic approaches and surgical excision. However, it is worth to note that some pterygium cause visual disturbance while some are not. Thus, needs of specificity in treatment and prediction of pterygium progression is important. At IIUM Optometry Clinic, we team up with a consultant ophthalmologist in developing a software that combines six (6) pterygium morphologies: redness, thickness, corneo-pterygium size, fibrovasular tissue weight and its length, on top of the pterygium translucence appearance (types of pterygium), known as Pterygium Redness Grading Software (PRGS). Findings revealed that redness appearance in combination with fibrovascular tissue weight leads to highest changes in oculovisual function. Thus, treatment plans should include all five (5) pterygium morphologies in determining the progression of pterygium. Types of pterygium should be put into consideration in predicting the changes as signifies inflammatory and fibroblast activation which leads to pterygium fibrovascular tissue growth. The impact of pterygium translucence in combination with all pterygium morphologies would assist us to have better understanding on how the anterior corneal surface change when pterygium progresses.

Conclusion & Significance: With the new approach available, better diagnosis and management can be prescribed not just for pterygium patients but also in managing irregular cornea.

Recent Publications (minimum 5)

Che Arif FA, **Hilmi MR**, Kamal MK, Ithnin MH (2020). Evaluation of 18 Artificial Tears Based on Viscosity and pH, *Malaysian Journal of Ophthalmology*, 2(2): 96 - 111.

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Hilmi MR, Khairidzan MK, Azemin MZC, Azami MH, Ariffin AE. Measurement of Contrast Sensitivity Using the M&S Smart System II Compared with the Standard Pelli–Robson Chart in Patients with Primary Pterygium. *Makara J Health Res* 2018 Dec;22(3):167-171.

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Biography

Dr Mohd Radzi Hilmi obtained his Optometry degree from International Islamic University Malaysia (IIUM) in 2010 and completed his Master's degree in Optometry (2011) from University of New South Wales (UNSW), Sydney, Australia. In 2016, he completed his PhD in Optometry at IIUM and officially joined IIUM. During his PhD stint, 6 indexed journals were published and he was awarded Best Student for PhD in IIUM Convocation 2017. Dr Radzi's team successfully develop software known as Pterygium Redness Grading Software (PRGS) which won the Silver Medal in International Innovation and Research Exhibition in 2015. He also had authored 30 publications in peer-reviewed journals and holds 10 intellectual copyrights to date. He also reviewer for 3 International peer-reviewed journals. His research interest is mainly on the irregular cornea, ocular surface and anterior segment imaging. Presently, He is an Assistant Professor at Department of Optometry and Visual Science and Consultant Optometrist for Optometry Clinic for Irregular Cornea (OCIC) service in IIUM.

Email: mohdradzihilmi@iium.edu.my

Notes/Comments: I am looking forward to become the plenary speaker and hopefully the organiser can waive the conference fee.