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Peer Review File

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Reviewer A

Although the case seems interesting, there is so far no causative relationship between pterygium and LED. Just one case report can never justify the relationship. The author may want to collect at least 10 similar cases to suggest the relationship between the pterygium and LED, or at least present more plasible assumption regarding the relationship.

Comment 1: The author may want to collect at least 10 similar cases to suggest the relationship between the pterygium and LED,
Reply 1: The authors acknowledge that further cases are necessary to justify the relationship as causative and now state as such
Changes in the text: Page 7 Line 162 to Page 8 Line 165 - As this is the first single observational case study to report on the potential harmful effect of LED emitted wavelengths, further case series studies, as a minimum, are needed to confirm this finding as causative.

Comment 2: or at least present more plasible assumption regarding the relationship.
Reply 2: We have added in new published data on corneal blue LED light damage.
Changes in the text: Page 7 Line 143 to Line 149 - Short-wavelength (blue) LED light (464 nm) irradiation has also been reported to result in oxidative stress, activation of autophagy, and cell death (10). An in-vivo mouse model has demonstrated that corneal epithelial apoptosis can be induced by blue LED exposure from the light source located 45 cm above them (11). Increased reactive oxygen species production, mitochondrial membrane damage and cell death in an immortalized human corneal epithelial cell line were also observed with blue LED (11).

Reviewer B

Well-designed case report. However, some issues have to be improved: Firstly, it should be discussed whether the pterygium is a "real" pterygium or more a pseudopterygium. Secondly, it should be stated the "normal" sunlight exposure (since this might be higher in Australia than in other countries) and a history of trauma or chemical burn. The Paper https://link.springer.com/article/10.1007/s00347-021-01366-9 (Rokohl et al) should be cited.

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Comment 3: The Paper https://link.springer.com/article/10.1007/s00347-021-01366-9 (Rokohl et al) should be cited.

Reply: Now included in the text as reference 2

Changes in the text: Page 3 Line 52 to 54 - It is well-known that pterygium is a sun-related ocular surface disease of focal fibrovascular proliferation of the conjunctival tissue onto the cornea secondary to ultraviolet (UV) radiation exposure (1, 2).