Diagnostic criteria for limbal stem cell deficiency before surgical intervention-A systematic literature review and analysis.

Journal: Surv Ophthalmol

Publication Year: 2019

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PubMed link: 31276736

Funding Grants: Regeneration of Functional Human Corneal Epithelial Progenitor Cells , Regeneration of a Normal Corneal Surface by Limbal Stem Cell Therapy

Public Summary:
An accurate diagnosis of limbal stem cell deficiency (LSCD) is the premise of an appropriate treatment; however, there is no consensus about the diagnostic criteria for LSCD. We performed a systematic literature search of the peer-reviewed articles on PubMed, Medline, and Ovid to investigate how LSCD was diagnosed before surgical intervention. The methods used to diagnose LSCD included clinical presentation, impression cytology, and in vivo confocal microscopy. Among 131 eligible studies (4054 eyes), 26 studies (459 eyes, 11.3%) did not mention the diagnostic criteria. In the remaining 105 studies, the diagnosis of LSCD was made on the basis of clinical examination alone in 2398 eyes (62.9%), and additional diagnostic tests were used in 1047 (25.8%) eyes. Impression cytology was used in 981 eyes (24.2%), in vivo confocal microscopy was used in 29 eyes (0.7%), and both impression cytology and in vivo confocal microscopy were used in 37 eyes (0.9%). Our findings suggest that only a small portion of patients underwent a diagnostic test to confirm the diagnosis of LSCD. Treating physicians should be aware of the limitations of clinical examination in diagnosing LSCD and perform a diagnostic test whenever possible before surgical intervention.

Scientific Abstract:
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