

Clinical Knowledge of Post-LASIK Corneal Ectasia: A Review

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Corneal ectasia is a devastating complication associated with laser in situ keratomileusis (LASIK) that occurs in an estimated 0.04–0.6% of patients. The condition occurs when the cornea begins to progressively thin and structurally weaken, resulting in an outward bulge (ectasia). Signs of post-LASIK ectasia include a progressive increase in myopia (with or without increasing astigmatism) and a decrease in uncorrected visual acuity. These signs are often accompanied by a decrease in best-corrected visual acuity, keratometric steepening, and/or asymmetric inferior corneal steepening. The condition can occur anywhere from one week to several years after surgery and results from a structural weakness in the cornea itself that was pre-existing, caused by LASIK or, in rare cases, resultant from postoperative physiochemical collagen changes (e.g., associated with pregnancy or infection). Because post-LASIK ectasia can be devastating, much effort has been given to detecting patients at a high-risk for developing the condition. Preoperative factors associated with post-LASIK ectasia include topography abnormalities, low corneal thickness, elevated posterior surface, thin post-LASIK residual corneal stromal bed, young patient age, and high myopia. This review summarizes current clinical knowledge of post-LASIK corneal ectasia and methods for detecting high-risk patients.

Key words: Incidence, Post-LASIK ectasia, Risk factors

Bahrain Med Bull 2021; 43 (1): 390 - 394