Safety and Efficacy of Phototherapeutic Keratectomy for Treatment of Recurrent Corneal Erosion syndrome: A Retrospective Service Evaluation in a Tertiary Care Centre

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Introduction

Recurrent corneal erosion syndrome (RCES), characterised by defects in hemidesmosomes of the corneal epithelial basement membrane, often presents with awakening pain, photophobia, and visual disturbances (Lin et al., 2019).
Trauma and epithelial basement membrane degeneration (EBMD) are common aetiologies.
Treatment options range from conservative approaches to the use of excimer laser-based Phototherapeutic Keratectomy (PTK) (Baryla et al., 2006). This study aimed to evaluate the safety and efficacy outcomes of receiving PTK for the treatment of RCES performed at St James' University Hospital, Leeds, United Kingdom.

Methods

A retrospective analysis of 251 patients (260 eyes) diagnosed with RCES treated with PTK between August 2015 and December 2021 was conducted. The extracted data from patient records included: demographics, POH, laterality, pre and post op VA, complications, recurrence, further PTK treatment.

Results

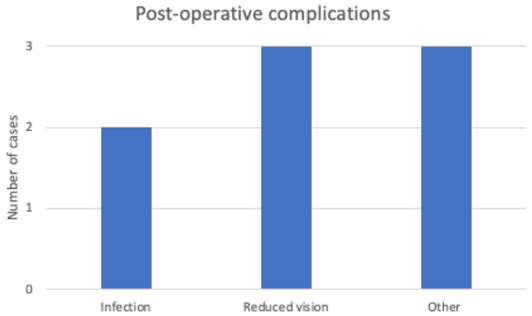
Results demonstrated a 18.5% complication rate postoperatively following PTK from August 2015 to December 2021. The recurrence rate was 15.4%. There were also only 8 cases of complications (3.1% complication rate). There were 2 cases of postoperative infections, 3 cases of reduced vision and 3 cases classed as 'other' due to varying symptoms such as delayed healing. Visual complications included blurred vision, hazy vision and reduced vision. Furthermore, 8.25% of eyes required further laser treatment.

Discussion

This retrospective study highlights the effectiveness and challenges associated with PTK in the management of RCES. At St James' University Hospital, we observed a recurrence rate of 15.4%, which is slightly lower than the 18% reported in the systematic review and meta-analysis by (Chen et al., 2023) of 700 eyes. This indicates potentially better outcomes for patients following PTK at our institution. Additionally, the overall postoperative complication rate also remains low at 3% and most were completely reversible. This may be due to the rapid reversibility of complications such as subepithelial haze which completely resolve within months postoperatively, similar to findings by (Chen et al., 2023). Our results further affirm the viability of PTK as a preferred approach.

Conclusion

PTK is a valuable and efficacious treatment option for severe RCES, offering sustained relief with a low recurrence rate.
Further analysis is required to investigate factors contributing to the need for repeat PTK in certain patient subgroups.



POHx	percentage of cases
RCES	55%
trauma	7.10%
abrasion	11.60%
EBMD	18.00%
Dystrophy	8.40%

References

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