

REVIEWER'S REPORT

Manuscript No.: IJAR-56776

Title: Cataract Formation After Penetrating Keratoplasty: Clinical Predictors From a 58-Case Retrospective Study in a Tertiary Center,

Recommendation:

Accept as it is

Accept after minor revision.....

Accept after major revisionYES.....

Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		√		
Techn. Quality			√	
Clarity			√	
Significance		√		

Reviewer's ID: JPR-094

Detailed Reviewer's Report

☐ ****1. Strengths****

* ****Clinically relevant topic****: Cataract formation after penetrating keratoplasty (PK) is an important complication affecting visual outcomes and surgical planning.

* ****Real-world data****: Provides practical insights from a tertiary care center, especially valuable for regions where PK is still widely performed.

* ****Clear objective****: The study has a well-defined aim focusing on identifying predictors of cataract formation.

* ****Structured methodology****: Inclusion criteria (phakic eyes, ≥ 24 months follow-up) are appropriate.

* ****Useful clinical findings****:

* Identification of ****age**** and ****surgical indication (corneal dystrophy)**** as key predictors.

* Practical implications for ****postoperative monitoring**** and ****combined vs sequential surgery****.

* ****Balanced discussion****: Authors acknowledge limitations and relate findings to existing literature.

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2. Weaknesses

Major Weaknesses

* **Small sample size (n=58)**:

* Limits statistical power and generalizability.

* **Retrospective design**:

* Prone to **selection bias** and **missing data**.

* **Short follow-up (24 months)**:

* Cataract incidence may be underestimated compared to long-term studies.

* **Incomplete statistical reporting**:

* No confidence intervals, odds ratios, or regression analysis presented.

* **Unusual statistical threshold ($p < 0.005$)**:

* Not justified; standard is $p < 0.05$.

Minor Weaknesses

* **Formatting errors**:

* Missing spaces (e.g., *preoperativevisualacuity*).

* **Incomplete reference (Ref 6)**:

* Indicates manuscript is not finalized.

* **Lack of important variables**:

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* No data on:

* Pre-existing lens opacity

* Intraoperative factors (iris manipulation)

* Postoperative inflammation severity

* **No ethical statement**:

* Missing ethics approval and patient consent declaration.

* **Outdated software**:

* SPSS 10.0 is very old (may raise concerns about analysis robustness).

3. Key Points

* Cataract developed in **17.2%** of patients within 2 years after PK.

* **Older age** is a significant predictor of cataract formation.

* **Corneal dystrophy** as surgical indication shows highest risk.

* **Corticosteroid exposure** was not significantly associated (contrary to some literature).

* Results support **risk-based postoperative surveillance**.

4. Significance of the Study

* Adds **regional data (Morocco)** to global literature on post-PK complications.

* Reinforces known predictors while highlighting **disease-specific risk variation**.

* Has **practical surgical implications**:

* Helps in deciding **combined keratoplasty + cataract surgery**

* Improves **patient counseling and follow-up strategies**

However, the **overall novelty is moderate**, as similar associations (age, indication) are already well-documented in previous studies.

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****5. Recommendation****

☐ ****Decision: MAJOR REVISION REQUIRED****

****Required Revisions****

Essential (Must be addressed)

1. ****Statistical improvement****:

- * Add multivariate analysis (logistic regression)
- * Report odds ratios and confidence intervals
- * Justify or correct p-value threshold (use 0.05)

2. ****Methodology clarification****:

- * Define how cataract was diagnosed and graded
- * Clarify corticosteroid dosage measurement

3. ****Complete missing information****:

- * Ethical approval statement
- * Fix incomplete reference

Recommended Improvements

- * Increase discussion depth comparing with recent studies
- * Improve formatting and language consistency
- * Add a ****table summarizing risk factors****

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* If possible, extend follow-up or acknowledge limitation more strongly

****Overall Reviewer Comment****

The manuscript addresses an important clinical issue and provides useful observational data. However, ****methodological limitations, incomplete statistical analysis, and presentation issues**** significantly affect its scientific rigor. With substantial revision, the study could become suitable for publication.

****Reviewer Justification for MAJOR REVISION ****

****ABSTRACT SECTION****

****Lines 17–18 (Statistical analysis)****

☐ Issue:

* ****“p value below 0.005 was considered statistically significant”****

* ****This threshold is non-standard and unjustified****.

Required Revision:

* ****Use $p < 0.05$ OR provide clear methodological justification****.

****Lines 21–29 (Results)****

☐ Issue:

* ****Only descriptive statistics are presented.**

* ****No confidence intervals, odds ratios, or regression analysis****.

Required Revision:

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* Add ****inferential statistics (multivariate analysis)**** to support claims of “significant association”.

**INTRODUCTION SECTION**

**Lines 51–55**

☐ **Issue:**

* Mentions known predictors but ****does not clearly identify knowledge gap****.

Required Revision:

* Clearly state ****what is novel**** about this study (e.g., regional data, specific predictors).

**Lines 63–67**

☐ **Issue:**

* Aim is stated, but ****no hypothesis or research question**** clearly defined.

Required Revision:

* Add a ****specific hypothesis or research question****.

**METHODS SECTION**

**Lines 71–72 (Study design)**

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☐ Issue:

* No mention of:

* **Ethical approval**

* **Institutional Review Board (IRB) clearance**

Required Revision:

* Add **ethical approval statement and consent procedure**.

Lines 73–77 (Study population)

☐ Issue:

* Inclusion/exclusion criteria are **incomplete**:

* No mention of:

* Pre-existing cataract

* Ocular comorbidities (glaucoma, uveitis)

Required Revision:

* Clearly define **inclusion and exclusion criteria**.

Lines 79–86 (Variables)

☐ Issue:

* Formatting errors (e.g., *preoperativevisualacuity*).

* Important variables missing:

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* Baseline lens status

* Intraoperative factors (iris manipulation)

Required Revision:

* Correct formatting and include ****clinically relevant variables****.

****Lines 87–89 (Outcome measure)****

☐ Issue:

* “Clinically detectable cataract” is ****not defined****.

Required Revision:

* Specify:

* Diagnostic criteria

* Grading system (e.g., LOCS III)

****Lines 90–92 (Statistical analysis)****

☐ Issue:

* Use of ****SPSS 10.0 (outdated)****.

* No mention of:

* Statistical tests used

* Multivariate analysis

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* Update statistical description:

* Specify tests (Chi-square, regression, etc.)

* Include **multivariate analysis**

RESULTS SECTION

Lines 96–99 (Incidence)

☐ Issue:

* No **confidence intervals** provided.

Required Revision:

* Add **95% CI** for incidence and key outcomes.

Lines 105–108 (Sex distribution)

☐ Issue:

* Statement “not significant” without statistical values.

Required Revision:

* Provide **p-values and test statistics**.

Lines 118–125 (Indication)

☐ Issue:

* Claims “significant association” but:

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* No statistical test shown

* No regression analysis

Required Revision:

* Perform ****multivariate regression**** to confirm independent predictors.

****Lines 127–129 (Corticosteroids)****

☐ Issue:

* Exposure not clearly quantified.

Required Revision:

* Define:

* Dose

* Duration

* Measurement method

****Lines 131–138 (Summary of factors)****

☐ Issue:

* Oversimplified without statistical backing.

Required Revision:

* Replace with ****table including OR, CI, p-values****.

****DISCUSSION SECTION****

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Lines 141–146

☐ Issue:

* Limited comparison with **recent literature**.

Required Revision:

* Include **updated references (last 5–10 years)**.

Lines 163–171

☐ Issue:

* Contradiction with literature (steroids not significant) not deeply analyzed.

Required Revision:

* Provide **stronger explanation or hypothesis**.

Lines 182–186 (Limitations)

☐ Issue:

* Limitations mentioned but **not critically analyzed**.

Required Revision:

* Expand on:

* Bias impact

* Statistical power limitations

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**CONCLUSION SECTION**

**Lines 196–202**

☐ **Issue:**

*** Conclusions slightly **overstated** given small sample and weak analysis.**

Required Revision:

*** Tone down conclusions to reflect **observational nature**.**

**REFERENCES SECTION**

**Line 218 (Reference 6)**

☐ **Issue:**

*** Incomplete reference (*pagination missing*).**

Required Revision:

*** Provide **complete and accurate citation**.**

**GENERAL / FORMATTING ISSUES**

Across manuscript

☐ **Issues:**

*** Typographical errors:**

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* **preoperative visual acuity** *

* **infectious keratitis scars** *

* Inconsistent formatting (bullets, spacing)

Required Revision:

* Perform **thorough language and formatting editing**.

FINAL JUSTIFICATION FOR MAJOR REVISION

The manuscript requires **MAJOR REVISION** due to:

1. ☐ **Inadequate statistical analysis** (no multivariate model, missing CI/OR)
2. ☐ **Methodological gaps** (unclear definitions, missing variables, no ethics approval)
3. ☐ **Data interpretation limitations** (unsupported claims of significance)
4. ☐ **Presentation issues** (formatting errors, incomplete references)
5. ☐ **Limited novelty and weak justification of findings**