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Unilateral congenital cataract with local lens deformity in a patient without Marfan syndrome: a case report

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Case Report

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Abstract

Background

Congenital cataract with a localized lens deformity and focal zonular absence in the absence of Marfan syndrome is extremely rare and has not, to our knowledge, been reported. We report such a case to highlight its clinical features and surgical management.

Case presentation:

A 58-year-old man with well-controlled hypertension and type 2 diabetes but no clinical features of Marfan syndrome presented with poor vision in the right eye since childhood, which had worsened over the previous four years. Best-corrected visual acuity (BCVA) was 0.2 in the right eye. Visual acuity in the left eye improved from 0.3 to 0.6 with optical correction. The right eye had been diagnosed with congenital cataract at 8 years of age. Examination revealed central, irregular lens opacity extending nasally, with a localized lens deformity and focal zonular absence from the 2:30 to 3:30 clock position in the right eye; the left eye showed mild lens opacity. The diagnoses were congenital cataract and amblyopia in the right eye, senile cataract in the left eye, and bilateral refractive errors. Phacoemulsification with intraocular lens (IOL) implantation was performed in the right eye, and postoperative visual acuity improved to 0.4.

Conclusions

This is an unreported case of non-Marfan-associated congenital lens deformity with local lens and zonule defects. Recognition of the focal zonular deficiency is important for surgical planning, and long-term monitoring is recommended.

Background

Ectopia lentis and lens coloboma are well-recognized ocular manifestations of Marfan syndrome, with variable presentations described previously [1–5]. However, congenital cataract accompanied by a localized lens deformity and focal zonular absence in a patient without Marfan syndrome is extremely rare and, to our knowledge, has not been reported. We report such a case, which differs from the lens abnormalities typically seen in Marfan syndrome.

Case presentation

A 58-year-old man presented with poor vision in the right eye since childhood and a marked decline in vision over the previous four years. Best-corrected visual acuity (BCVA) in the right eye was 0.2. The right eye had been diagnosed with congenital cataract at 8 years of age. Visual acuity in the left eye was 0.3

and improved to 0.6 with an optical correction of -1.00 DC x 98 degrees. The patient had well-controlled hypertension and type 2 diabetes and no clinical features of Marfan syndrome.

Slit-lamp examination of the right eye revealed central, irregular lens opacity extending nasally. A localized lens deformity and focal zonular absence were observed from the 2:30 to 3:30 clock position. The left eye showed mild lens opacity. No significant fundus abnormalities were observed in either eye.

The diagnoses were congenital cataract and amblyopia in the right eye, senile cataract in the left eye, and bilateral refractive errors. The patient underwent phacoemulsification with intraocular lens (IOL) implantation in the right eye. Postoperative visual acuity improved to 0.4 in the right eye. Preoperative and postoperative slit-lamp findings are shown in Fig. 1.

Discussion and Conclusions

This case describes a localized lens deformity with focal zonular absence in a patient without clinical features of Marfan syndrome. This presentation differs from the ectopia lentis and lens coloboma typically reported in Marfan syndrome [1–5]. The longstanding visual impairment in the right eye was most likely related to congenital cataract and amblyopia, with later cataract progression. Focal zonular deficiency increased the complexity of cataract surgery but was successfully managed with phacoemulsification and IOL implantation. Recognition of this abnormality is important for surgical planning, and long-term follow-up is warranted.

Abbreviations

BCVA
best-corrected visual acuity
DC
diopter cylinder
IOL
intraocular lens.

Declarations

Ethics approval and consent to participate

This is a retrospective single-case report based on routine clinical data from Ningbo Eye Hospital. The study was conducted in accordance with the Declaration of Helsinki and was registered with the Clinical Research Management Committee of Ningbo Eye Hospital. Retrospective notification was performed by short-message service, and the patient did not decline the use of clinical data for publication. Written informed consent for routine ophthalmic treatment was obtained from the patient.

Consent for publication

Written informed consent was obtained from the patient for publication of the patient's clinical details and accompanying clinical images in this case report. A copy of the written consent form is available for review by the Editor of this journal.

Competing interests

The authors declare that they have no competing interests.

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Author Contribution

Y.Z. contributed to data curation and wrote the main manuscript text. P.Z. prepared and arranged the figures and sorted the data. Z.L. reviewed and edited the manuscript and supervised the study. All authors read and approved the final manuscript.

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We thank the patient for granting permission to publish this clinical information.

Availability of data and materials

All data generated or analysed during this study are included in this published article. The underlying medical records are not publicly available to protect patient confidentiality. Further de-identified information may be available from the corresponding author on reasonable request, subject to institutional approval.

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Figures

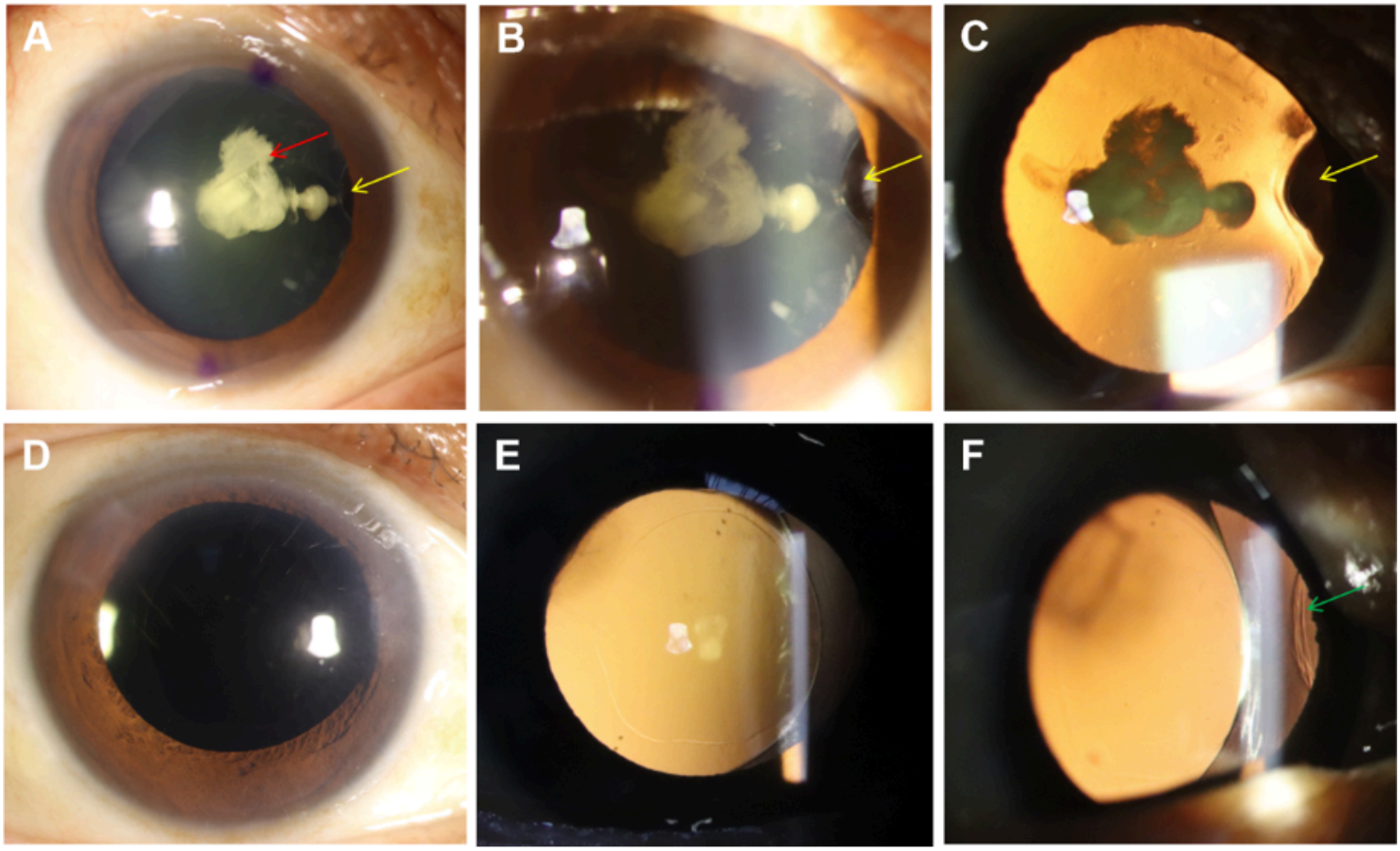


Figure 1

A-C: Preoperative anterior-segment photographs. The red arrow indicates the central lens opacity, and the yellow arrow indicates the localized lens deformity and focal zonular defect on the nasal side. D-F: Postoperative anterior-segment photographs after cataract surgery. The green arrow indicates the edge of the capsular bag in the area of the nasal zonular defect.