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Case Study Report on Uniocular "Christmas Tree" Cataract

Rida El-Hadiri [a*], Rim El-Hachimi [a], Samira Tachfouti [a], Nourdine Boutimzine [a], Abdellah Amazouzi [a] and Lalla Ouafa Cherkaoui [a]

[a] Department of Ophthalmology A, Faculty of Medicine and Pharmacy of Rabat, Mohammed V University of Rabat, Morocco.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Christmas tree cataract is a rare age-related condition characterized by the presence of multicolored crystals in the substance of the lens [1-3]. It is a chemical mixture of denaturized proteins with high level of calcium and cystine [4,5]. This type of cataract may be associated with autosomal-dominant myotonic dystrophy.

Keywords: Cataract; christmas tree; polychromatic opacities; cystine; calcium.

1. INTRODUCTION

Christmas tree cataract is called so because of the presence polychromatic opacities within the lens. It is an age-related condition due to crystallization denaturized proteins in presence of favorable biochemical microenvironment. Herein, we describe a case of unilateral Christmas tree cataract.

2. CASE REPORT

A 62-year old patient with no particular past medical history presented for a routine eye

**Corresponding author: E-mail: elhadirireda@gmail.com;*

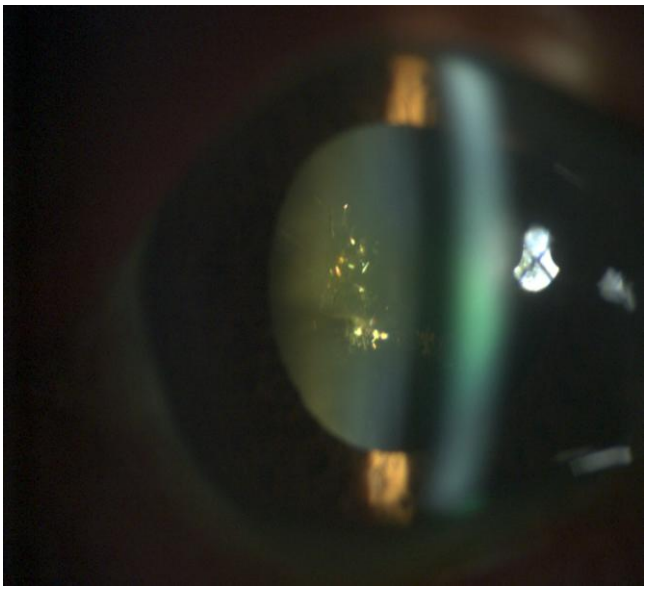

Fig. 1. Slit-lamp examination of a Christmas tree cataract showing polychromatic crystals within the substance of the crystalline lens

checkup. His best corrected visual acuity was 6/6 OU. Ophthalmologic examination with dilated pupil objectified needle-like multicolored crystals in the substance of the right crystalline lens (Fig. 1). The multicolored sparking needles were essentially green, blue and gold. We noted variation of colors with change of the angle of incidence of the lit-lamp beam. There was no anomaly in the posterior segment and the fellow eye examination was unremarkable. The patient had no systemic abnormality. We concluded to a case of uniocular ‘‘Christmas tree’’ cataract. The patient was advised regular follow-up in view of his excellent visual acuity.

3. DISCUSSION

“Christmas tree cataract is an age-related media opacity resulting from degeneration of crystallin proteins induced by elevated calcium levels” [1]. “The resulted denatured proteins accumulate in the lumen of the reticular meshwork.It is believed that cystine is likely responsible for the formation of needles which have a refractive potential” [2]. According to the angle of incident light, those needles may show various crystal colours giving the fascination pattern of a Christmas tree in the eye. This rare but striking appearance is often not visually significant and is usually encountered in a routine examination.Surgical intervention is indicated when the cataract impairs vision. Autosomal-dominant myotonic dystrophy is the most important systemic association with Christmas tree cataracts [3].

4. CONCLUSION

Christmas tree cataract is a rare age-related condition characterized by the presence of multicolored crystals within the lens because of favorable chemical microenvironment. This striking pattern should raise the possibility of an associated autosomal-dominant myotonic dystrophy.

CONSENT

As per international standard or university standard, patient(s) written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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