Case Report

Acute corneal hydrops in advanced stage of keratoconus: A case report

Abstract

Keratoconus is a bilateral disease of eye in which thinning of cornea is occurs. Keratoconus is a non-inflammatory, progressive corneal abnormality in which thinning and bulging of the cornea, resulting in irregular astigmatism and reduce visual acuity. The prevalence of keratoconus depends upon some factors age, gender, family history, ocular allergy and eye rubbing. Keratoconus is classifying on the basis of severity of disease mild, moderated and severe case. A 34 year male patient visited in Fatima Jinnah chest institute having history of keratoconus. Patient was complaining sudden, painful visual loss. On examination rupture in Descement membrane was seen through ophthalmoscope and slit lamp, leading to sudden influx of aqueous humor into the stroma. Due to fluid accumulation in cornea leads to corneal edema. Ocular finding was acute hydrops in advanced stage of cornea. Acute corneal hydrpos is a serious complication of advanced stage of keratoconus that can cause sudden visual loss. The acute corneal hydrops in this patient elaborate the significance of early diagnosis and appropriate follow up treatment of advanced stage of keratoconus. While the patient had not received previous treatment the occurrence of hydrops may be due to multiple factors, such as disease severity, eye rubbing, other patient-specific characteristics and patients biomechanical should be considered. Therefore early management and follow up is very important for stabilization of disease.

Keywords: keratoconus, acute hydrops, visual acuity

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Case report

A 34 year old patient was complaining of sudden painful vision loss. Demographic data and history of patients is describe below Table 1, Figure 1.

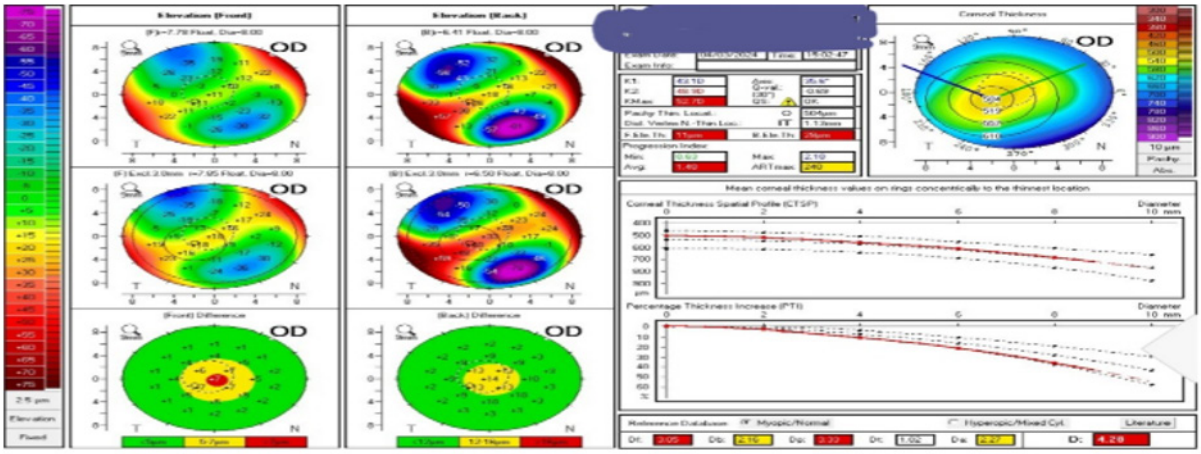

Figure 1 Pentacam scan.

Table 1 Demographic data and history of patient

Demographic data and history of patient	
gender	male
age	34
Eye affected	Right
Medical history	No
History of keratoconus	Yes (moderate keratoconus was in previous scan figure 1)
History of eye	Contact lens

On examination rupture in Descement membrane was seen through ophthalmoscope and slit lamp, leading to sudden influx of aqueous humor into the stroma. Due to fluid accumulation in cornea leads to corneal edema. Ocular finding was acute hydrops in advanced stage of cornea. Acute corneal hydrpos is a serious complication of advanced stage of keratoconus that can cause sudden visual loss. Patient has history of mild keratoconus. Acute corneal hydrpos is a serious complication of advanced stage of keratoconus that can cause sudden visual loss. Therefore early management and follow up is every important for stabilization of disease. Clinical finding is in Figure 2.

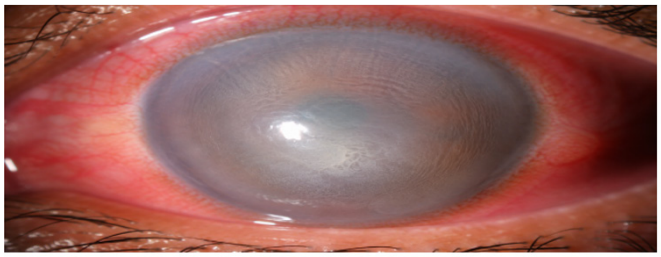

Figure 2 Acute hydrops.

Introduction

Keratoconus is a bilateral disease of eye in which thinning of cornea is occurs. Keratoconus is a non-inflammatory, progressive corneal abnormality in which thinning and bulging of the cornea, resulting in irregular astigmatism and reduce visual acuity.[1–3] The prevalence of keratoconus depends upon some factors age, gender, family history, ocular allergy and eye rubbing. In a previous 15 studies prevalence of keratoconus was 1.38 per 1000 population 20.6 per 1000 in men and 18.33 per 1000 in women in studies reporting gender.[4] the pathophysiology of keratoconus looks to have the contribution of genetics factors. Family history of keratoconus is primarily related to autosomal dominant.[5] keratoconus is relatively common in different countries. The Middle East countries shared the same characteristics of this disease and some areas in India environmental factor is the hot and dry climate, where oxidative damage due to excessive ultraviolet light exposure, nutrition and ethnic background seem to provide the manifestation of keratoconus. Rabinowitz analysed the data main environmental factors associated with keratoconus were allergy, joint hypermobility eye rubbing in and positive family history compared with regular patients.[6–8] According to the KSS classification, the average corneal power 47 D with mild,53D in the moderate, and 62 D in the severe.[8] Keratoconus is a disease which is characterized by progressive corneal thinning and steepening of cornea that may result in visual loss secondary to increase in astigmatism, corneal scarring, or even corneal perforation also occurs. Corneal perforation is serious condition. Early detection and screening of keratoconus are essential for effective management and treatment. Several screening methods are available, such as corneal tomography and topography, corneal biomechanics and genetic testing, are being developed to diagnose keratoconus at an early stage. Once diagnose, prevention of progression is the main source of keratoconus management. CXL (Corneal collagen cross-linking) is a standard and minimally invasive treatment option that can stop or halt the progression of keratoconus. Additionally, current t studies have described the potential use of copper sulphate eye drops and extracellular vesicles to stop the progression of keratoconus. For visual improvement and rehabilitation, currently available treatments consist of scleral lenses, corneal intrastromal ring, and deep anterior lamellar keratoplasty corneal collagen cross linking. The efficacy and safety of these innovative treatment options for keratoconus are recently being diagnosed.[9]

Discussion

Keratoconus is more prevalent in Asian as compared to other. The prevalence of keratoconus depends upon some factors age, gender, family history, ocular allergy and eye rubbing. In a previous 15 studies prevalence of keratoconus was 1.38 per 1000 population 20.6 per 1000 in men and 18.33 per 1000 in women in studies reporting gender. Keratoconus is a non-inflammatory, progressive corneal abnormality in which thinning and bulging of the cornea, resulting in irregular astigmatism and reduce visual acuity.[1–3] keratoconus affect the quality of life. There are different treatment options available to treat this disease. Mild case of keratoconus treatment are glasses, moderate treated with hard contact lens, severe also treated with surgeries if cornea is clear. In severe case if remain untreated leads to damage the cornea. Corneal transplant is the last option if cornea is damaged.in this case patient was with moderate keratoconus which remain untreated leads to damage in descement membrane. Rupture in membrane cause the corneal edema (aqueous humor accumulation). Finally clinical finding was acute hydrops. Early and prompt treatment is important to stabilization of keratoconus. Otherwise leads to permanent visual loss.

Conclusion

As we know keratoconus is most vulnerable to eye vision. Keratoconus is progressive eye disease if remain untreated leads to permanent vision loss. Early and prompt treatment is important to stabilization of disease. There should be appropriate treatment for hydrops. In this study patients is treated with hypertonic saline, Topical corticosteroid, Antibiotic, Cycloplegic and Lubricants and advised to follow up after 1 week. Patient should be treated for few months follow untill stablazie the disease.

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Conflicts of interest

The author declares that there are no conflicts of interest.

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