

## CASE REPORT

# Corneal Perforation in a Patient with Chronic Keratouveitis and Gout: Case Report

Rita Partojeva\*, Eriks Elksnis\*,\*\*, Guna Laganovska \*,\*\*

\*Riga Stradins University, Riga, Latvia

\*\*Department of Ophthalmology, Pauls Stradins Clinical University Hospital, Riga, Latvia

## Summary

The ophthalmic manifestations of gout are rare. There are only few published reports and study about it. The majority of patients with ocular gout abnormalities are asymptomatic. The authors discuss the case of a 43-year-old male who presented with central corneal keratolysis with perforation. The patient has an approximately 14-year history of gout attacks and chronic keratouveitis which started about the same time. Coincidence of keratouveitis in a patient with gout has not been reported and it is unclear if this condition is rare or may only be by chance at the same time with gout.

**Key words:** corneal perforation, chronic keratouveitis, gout

## AIM OF THE DEMONSTRATION

The aim of this article is to demonstrate a rare coincidence of chronic keratouveitis and gout in a patient with sudden central cornea keratolysis with perforation.

## CASE REPORT

A 43-years-old male was referred to Rigas Pauls Stradins Clinical University Hospital Ophthalmology ward due to sudden decreased vision and redness in the right eye. Two days before administration to hospital patient had complaints about sudden blurred vision, diplopia and strange feeling in the right eye. In this time period patient tried to rest and subjectively slowly started to feel worse until sudden vision decrease. The patient is known case of chronic keratouveitis, cataracta complicata and similar episode with cornea perforation in his left eye in 2005 after which he went blind with this eye. The visual acuity was 0.01 OD on the Snellen chart. Palpatory the intraocular pressure was hypotonic in OD. Right eye ophthalmologic examination revealed conjunctival hyperemia, corneal neovascularization, narrow pupil that do not react to light, posterior synechia, cluttered lens and central corneal keratolysis with perforation. (Figure 1) Seidel test was positive. The deepest structures of the eye can not be evaluated. The complete blood count test within normal limits. The titers of the auto antibodies (p-ANCA, c-ANCA, ANA) and HLA B-27 were at normal levels but rheumatoid factor was elevated (18 IU/mL). The serum uric acid level was not specified.

Patient received anti-inflammatory therapy (Sol. Oftaquix eye drops and intravenous Sol. Cefazolin) after which patient subjectively started to feel better. The visual acuity was 0.03 nc. exc. in OD. After 3 weeks patient underwent a successful total corneal transplantation with lensectomy, iridectomy and intraocular lens implantation in posterior chamber. (Figure 2)

From anamnesis it is known that in 2003 patient had his first gout attack with severe pain in his foot. At the same time patient had his first episode of chronic keratouveitis with bilateral severe pain in the eye, photophobia and ocular redness. These complaints repeated several times less than once per year since 2003. The last time patient referred to an ophthalmologist was in 2005. Gout was diagnosed in 2010, for which he irregularly had taken Allopurinol.

It is unclear whether chronic keratouveitis is caused by gout because there are no compelling diagnostic methods. In this case report no serum uric acid level was established and it was impossible to detect urate deposits in the cornea because of corneal perforation but the association is possible because chronic keratouveitis started at the same time as gout attacks, patients irregularly had taken gout medication, patient had similar obscure etiology episode with his left eye and ophthalmologic examination revealed conjunctival hyperemia, posterior synechia and cataract which after literature is associated with ocular gout.

## DISCUSSION

Gout is one of the most common form of arthritis among middle-aged men. The prevalence is approximately 8 cases per 1,000 persons of all ages (4) with increasing incidence worldwide. (6) It is caused by depositions of monosodium urate crystals in joints and connective tissue usually in the presence of prolonged hyperuricemia. (2)

The ophthalmic manifestations of gout are rare and link between ocular abnormalities and gout has been rarely investigated. Urate crystal depositions has been observed in different ocular structures: eyelid, conjunctiva, sclera, cornea, lens, iris, orbit, vitreous chamber, optic disc, retina and blood vessels. It is maybe because urate crystals are prone to develop at avascular tissues as cornea and ocular structures have relatively poor ability to lower temperature and therefore are predisposed to

urate crystals deposition as a result develops crystal-induced inflammation. (1) The most common ocular abnormality in patients with gout is reported to be bilateral ocular redness. Other ocular manifestations include uveitis, glaucoma, dry eye syndrome, cataract and asteroid hyalosis. (7)

In the 1960s gout was estimated to cause 1-3.5% of all uveitis but recently the prevalence of gout-related uveitis has decreased. (1) In most of these cases that we have observed from medical literature serum urate level is unknown and clinical course of ocular involvement was bilateral with recurrent attacks. (6) Usually between attacks the eye appears normal although there may be posterior synechiae formation. (1) *Ferry et al.* in prospective study of patients with severe gout reported no cases of uveitis. (3) *Lin et al.* in research to characterize the clinical features of ocular surface in gout patients results showed that ocular urate crystals incidence was 0.79% and in two cases deposits were found in the cornea. (5) Corneal urate crystals can present with burning ocular pain, progressive redness and impaired vision. At least two cases of corneal ulcers associated with gout has been reported but without histological confirmation. (1)

In conclusion, ocular gout is rare condition. Since the clinical presentation is very non-specific and, in most cases, it is asymptomatic it is worth to point out that gout diagnose should be considerate in patients with bilateral ocular redness and deposits in ocular structures.

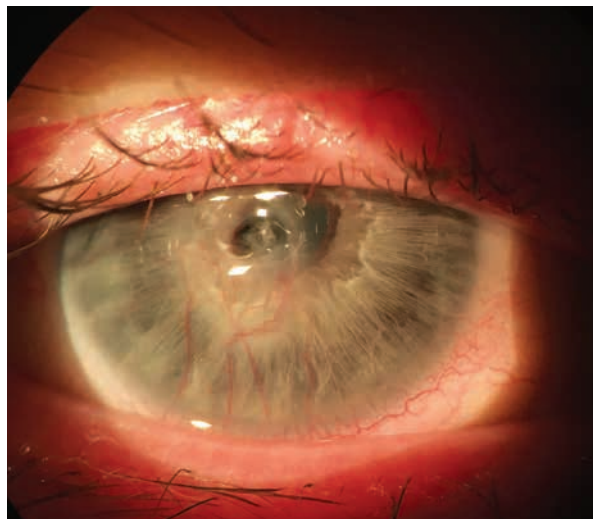
**Conflict of interest:** None

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## Address:

Rita Partojeva  
Dammes iela 28-59  
LV-1069, Riga, Latvia  
e-mail: rita.parto@gmail.com



**Fig. 1. Central corneal keratolysis with perforation**



**Fig. 2. Right eye after total corneal transplantation**