SAS Journal of Medicine
Abbreviated Key Title: SAS J Med
ISSN 2454-5112
Journal homepage: https://saspublishers.com

OPEN ACCESS

Ophthalmology

Bilateral Peripheric Ulcerative Keratitis Discovered in the Setting of a Pituitary Macroadenoma

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DOI: 10.36347/sasjm.2023.v09i12.006 | **Received:** 25.07.2023 | **Accepted:** 02.09.2023 | **Published:** 19.12.2023

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Abstract **Case Report**

We report the case of a 76 years old patient with a long standing history of rheumatoid arthritis, in whom an ophthalmologic asessement for a pituitary macroadenoma led to the discovery of a bilateral Peripheric ulcerative keratitis.

Keywords: PUK, bilateral PUK, pituitary adenoma, rheumatoid arthritis.

INTRODUCTION

Peripheral ulcerative keratitis (PUK) is a group disorders that cause peripheral corneal thinning, threatening globe integrity in advance stages. It is usually associated with systemic autoimmune desease. Rheumatoid arthritis is the most common non infectious cause.

CASE DESCRIPTION

We admitted a 76 years old patient for an ophthalmologic workup of a pituitary adenoma discovered after chronic headaches with no other neurologic or endocrine interpellation signs.

Besides the recently discovered tumor, the patient has a long standing history of rheumatoid arthritis. At admission he was only on first lign DMARDS therapy (methotrexate at the dose of 7.5mg weekly) and has been self medicated with steroids that have been prescribed before for short periods of time during flare ups.

When the patient was asked, he reported an episode of red painful eyes with photophobia few weeks later, for which he seeked no medical advice.

At examination corrected visual acuity was 5/10 on both eyes at the slit lamp examination, the conjonctiva, episcleral and sclera show no signs of acute inflammation, we observe a moderate corneal stromal thinning on the inferior circumference of the cornea with a small epithelial defect on the right eye few stromal opacities without any corneal neovascularization are noted.

Fluorescein test showed also mild signs of keratoconjunctivitis sicca on both eyes subcapsular cataract is observed on both eyes without any abnormalities in fundoscopy.

Articular examination showed deformities and mild tenderness on wrists and other articulations, DAS 28 was 5,04 with moderate ESR and CRP levels the patient was addressed to the consultant rheumatologists for RA flare up.

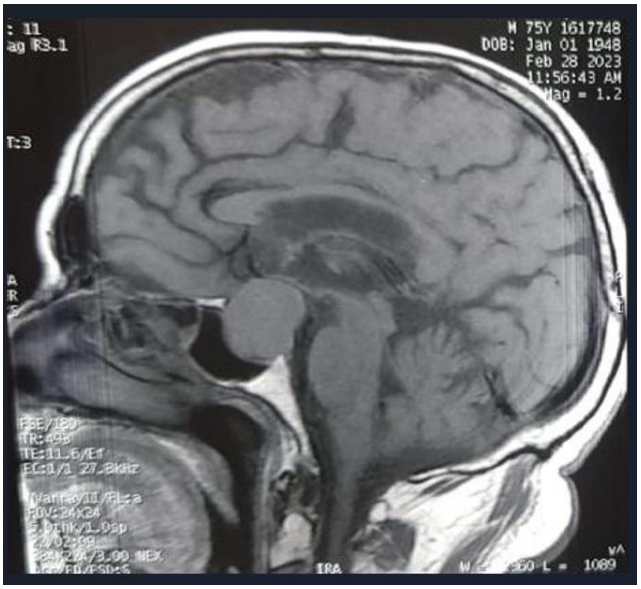
The patient was immediately switched to intravenous cyclophosphamide and received also 3 IV pulses of 1g methylprednisolone locally he was started on topical hourly dexamethasone drops, lubricants, and antibiotics healing of the residual epithelial ulcer occurred promptly within 4 weeks.

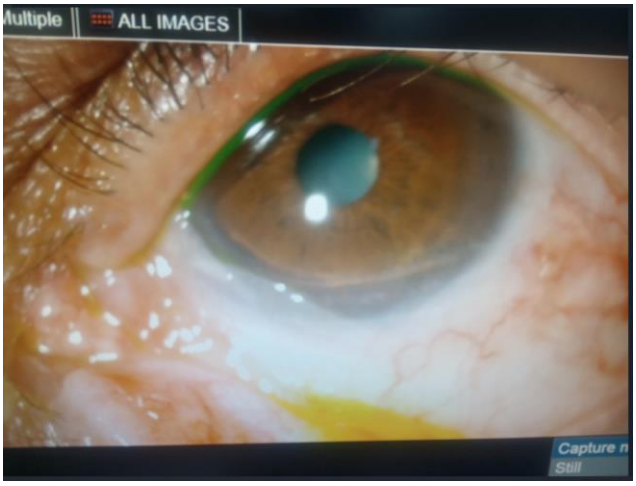
The cytotoxic treatment was discontinued altogether within 6 months, steroids were also tapered within 3 months. DAS 28 was below 3.2 at 6 months of evolution and both ocular inflammation and articular manifestations were controlled.

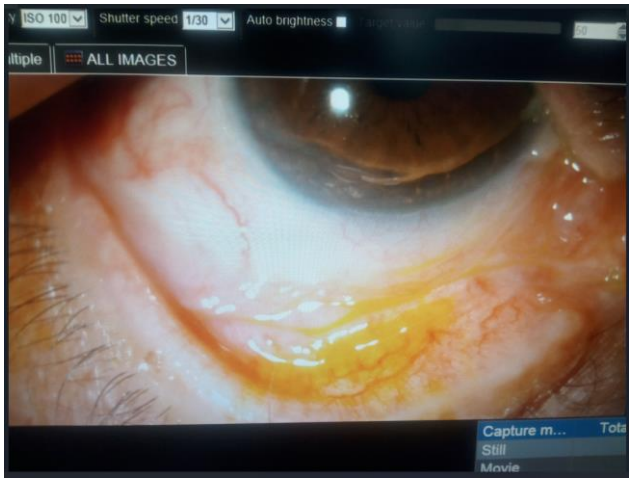
A workup for any associated infectious or systemic autoimmune disease other than RA yielded negative results. Notably investigating the associated DED in this patient wich included anti-SSA and anti-

SSB and salivary gland biopsy that showed no focal sialadenitis.

As for the macroadenoma Despite its large size the pituitary adenoma caused no visual impairment, we noted no anomalies on 24/2 visual field, color vision or papillary oct on the endocrine plane the adenoma was nonfunctional, thus no surgical intervention was required for the moment and simple MRI follow up was advised.







DISCUSSION

PUK are frequently associated with autoimmune collagen vascular and arthritic diseases. Rheumatoid arthritis is the most frequent underlying cause. The tendency for peripheral location of PUK is due to the immunological attributes and vascular richness of the limbal cornea.

Correlation between articular activity and PUK isn't well established, it is rather that patients with PUK represent increased subclinical disease activity associated with a significantly higher risk of flareup hence rheumatoid PUK could be a warning sign of an upcoming vasculitis.

The literature suggests different pathogenic mecanisms undelying PUK in the setting of rheumatoid arthritis both humoral and cellular immunity mechanisms are incriminated in the genesis of PUK, research also highliths the role of matrix metalloproteinases and their role in the lysis of the collagen of the stroma and of the basal membranes of the cornea.

Even Tough puk is usually unilateral, bilateral and asymetrical forms can be encountered as an extra articular manifestation of RA. Ocular involvement ranges from dry eye desease to nodular scleritis and PUK. High mortality are associated with rheumatoid PUK since it is an indicator of progression of the desease.

Local medical treatment includes topical immunosuppressive drugs like cyclosporine A and corticosteroids steroids do promote healing of corneal lesions but may delay epithelial healing.

The surgical management of PUK is indicated in impending or evident corneal perforation, multilayer amniotic membrane graft, resection of the inflamed adjacent conjonctiva, conjunctival flap or even penetrating keratoplasty for severe cases with larger perforations systemic treatements include corticosteroids in adjunction with immunosuppressive agents and biological therapies as a second lign alternatives.

We believe that in our case, the inadvertent use of steroids as a self medication for articular pain, is what promoted corneal healing and put off the risk of corneal perforation. No need for a surgical intervention such as amniotic membrane graft was needed since epithelial healing had already occurred and granted globe integrity.

The literature emphasizes on the necessity of an aggressive approach both local and systemic for the desease. As it was the case for our patient ocular involevement at the front line of a flare up signals that the desease was refractory to the ongoing treatement, so our therapeutic approach was aggressive despite the fact that the critical phase of the ocular incident has been resolved.

At 8 months evolution biomicroscopic and oct measures do not show deterioration and systemic inflammation is controlled under maintenance regime.

CONCLUSION

Our case report underlines the importance of screening for ocular involvement in rheumatoid arthritis by periodic ophthalmologic examination, and the paramount role of multidisciplinarity.

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