

# Role of Mini-Scleral Lens in Mucous Membrane Pemphigoid

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## Abstract

## Purpose

To report the use of mini-scleral contact lens in the management of mucous membrane pemphigoid (MMP) with persistent epithelial defects.

## Methods

A 68-year-old male with a history of ocular pain and declining visual acuity was referred to our clinic with a diagnosis of MMP. His corrected distance visual acuity (CDVA) was 20/200 in the right eye and 20/100 in the left eye. Despite being on lubricants, topical steroids and intravenous cyclophosphamide, the patient developed persistent corneal epithelial defects in both eyes. He was then given a trial of mini-scleral lenses.

## Results

Within four weeks corneal epithelial defects healed and at 6 months the CDVA had improved to 20/50 in the right eye and 20/40 in the left eye.

## Conclusions

By improving the corneal surface integrity and visual function, mini-scleral lenses can play a role in the visual rehabilitation of patients with mucous membrane pemphigoid.

## Keywords

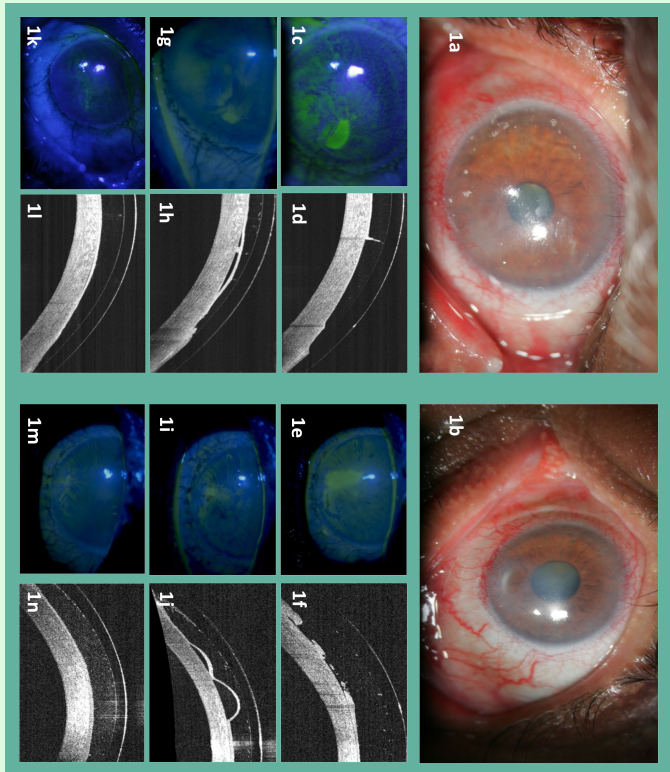
mucous membrane pemphigoid, mini-scleral lens, epithelial defects

## Introduction

Chronic cicatricial conjunctivitis is a group of diseases characterized by progressive scarring of the ocular surface with autoimmune diseases such as mucous membrane pemphigoid (MMP) being important causes. [1] Ocular MMP, also known as ocular cicatricial pemphigoid (OCP), is a sight-threatening, sub-epithelial, blistering disease characterized by bilateral, asymmetrical, chronic, progressive or relapsing conjunctivitis with cicatrization, corneal vascularization and opacification. [2] Treatment options including preservative-free artificial tears, topical cyclosporine A, punctal plugs and scleral contact lenses to improve the health of the ocular surface and visual function. [2-4] This case report describes the use of Rose K2 mini-scleral lenses (Menicon Co. Ltd., Nagoya, Japan) for successful treatment of a persistent corneal epithelial defect secondary to MMP that was not responsive to conventional therapy

## Case Report

A 68-year-old male diagnosed with MMP presented with complaints of dryness in both eyes. On examination his corrected distance visual acuity (CDVA) was 20/200 in the right eye and 20/100 in the left eye. Slit lamp examination showed a symblepharon, shorting of the inferior fornix, Meibomian gland dysfunction and marginal corneal superficial vascularization in both eyes. An epithelial defect 2.5 x 1.5 mm in the right eye (Figure 1a) and 2 x 1 mm (Figure 1b) in the left eye was noted. A therapeutic contact lens (Air-Optix aqua, Alcon, TX) trial failed to heal the epithelial defect despite several attempts. The poor ocular surface caused the contact lenses to dislodge frequently. The patient was then fitted with a Rose K2 mini-scleral contact lens in an attempt to alleviate symptoms and promote healing. The lenses, made of Menicon Z, had a base curve of 6.60 mm, diameter of 14.6 mm and power of -5.50 D for both eyes. He was advised to wear them during the waking hours and to switch to soft contact lenses at night. He was asked to soak them in Boston Simplus solution (Bausch and Lomb, Rochester, NY) and clean the lens periodically. Rapid re-epithelialization was observed and the size of corneal epithelial defect decreasing to 1.5 x 1 mm within four days (Figure 1c, 1d, 1e, 1f) and 0.5 mm in 8 days (Figure 1g, 1h, 1i, 1j) in both eyes. Complete resolution of the epithelial defect was seen after 4 weeks in both eyes (Figure 1k, 1l, 1m, 1n). In addition, the CDVA improved to 20/50 in the right eye and 20/40 in the left eye. The patient's visual acuity and corneal surface integrity have remained stable for 6 months of follow-up. He is currently on topical lubricants and Tablet Endoxon 100 mg once daily.



Figures 1a, 1b. The both eye cornea had an epithelial defect. (Figures 1c, 1d, 1e, 1f). Rapid re-epithelialization was observed after starting mini-scleral lens, epithelial defect decreasing to 1.5 x 1 mm after 4 days. (Figures 1g, 1h, 1i, 1j). 0.5 mm decreasing after 8 days. (Figures 1k, 1l, 1m, 1n) Complete resolution of the epithelial defect after 4 weeks in both eyes.

## Discussion

Mucous membrane pemphigoid is a group of rare chronic autoimmune disorders affecting mucosal surfaces. The eye and mouth are commonly involved and requires both topical and systemic therapy to control inflammation. Some of the accepted treatment modalities include artificial tear substitutes, steroids, topical cyclosporine, scleral contact lens and tarsorrhaphy. [5-6] Despite trying all the above options, our patient showed a poor response, thereby posing a therapeutic challenge. Hence, we tried using a new treatment modality, the Rose K2 mini-scleral contact lenses, which are known to provide rapid healing of epithelial defects in similar conditions. [7] Large-diameter fluid-ventilated rigid gas permeable lenses such as the mini-scleral lenses are uniquely designed to provide protection for the entire ocular surface. As they are primarily supported by the sclera they maintaining a post-lens reservoir that continuously lubricates the corneal surface, allowing epithelial defects to heal in addition to protecting the entire cornea surface against irritants and friction generated from eyelid movement. Additionally, the mini-scleral lenses have a high oxygen permeability, which may reduce the development of corneal edema. Managing ocular symptoms of MMP can be difficult and frustrating for the patient and treating physician. Rose K2 mini-scleral contact lenses offer improvement in both corneal surface integrity and visual acuity. Considering the risk and morbidity of surgical therapies, these lenses should be considered a viable treatment option in MMP patients with ocular involvement.

## References

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