CASE STUDY

Unilateral Mooren Ulcer After COVID-19 Vaccination

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ABSTRACT

Introduction: Mooren ulcer is an immune-related corneal pathology of unknown origin, that often occurs following a triggering factor.

Case Report: We report the case of a 32-year-old woman who presented with a red painful right eye. The clinical findings were in favor of peripheral ulcerative keratitis. The etiological assessment came back negative. The retained diagnosis was Mooren ulcer. The treatment was based on oral corticosteroid therapy and immunosuppressants prescribed by internists. The evolution was marked by the regression of the pain and the stability of the lesion.

Discussion: Currently in the literature, rare cases of corneal ulcers following COVID-19 vaccination have been described. A causal link remains possible but not yet proven. This subject needs more perspective and research.

Conclusion: The COVID-19 vaccine has several ocular side effects. The mechanism of triggering a mooren ulcer remains unclear.

Keywords: COVID-19 vaccine, Mooren ulcer, Ocular side effects, Peripheral ulcerative keratitis.

1. INTRODUCTION

Mooren ulcer is a peripheral ulcerative keratitis (PUK) that begins in the clear cornea of the limbus and extends circumferentially and centrally [1]. It is commonly unilateral, with a male predominance. Severe cases require the introduction of immunosuppressants if there is no response to steroids associated with conjunctival resection. A negative etiological assessment favors the diagnosis. There is most often a triggering factor [2].

2. CASE REPORT

The 32-year-old female patient, with no notable pathological history, presented to the emergency room, 2 weeks after administration of the first dose of the COVID-19 inactivated vaccine, for painful red eye with loss of visual acuity. The right eye examination found a visual acuity measured of 4/10, associated with moderate conjunctival hyperemia, a unilateral corneal ulcer, peripheral, deepening without healthy cornea interval, with corneal thinning peripherals from 1 o’clock to 3 o’clock, measuring 4.3 millimeters × 1 millimeter (Fig. 1). No inflammatory signs were found in the anterior chamber, nor retrodescemetic precipitates nor iridocrystaline synechiae. Hyalitis was not observed and the fundus examination did not reveal any abnormality. Examination of the left eye was normal. The ulcer was treated with topical antibiotics and healing eye drops but without improvement. An etiological assessment did not reveal any other etiology. The introduction of local corticosteroid brought an improvement but with an increase in symptoms when treatment was stopped. Internists introduced systemic corticosteroid therapy and immunosuppressants, that led to a stability of the corneal lesion and visual acuity after 3 weeks of treatment (Fig. 2).

3. DISCUSSION

In the literature, many ocular disorders have been reported following the administration of the COVID-19 vaccine [3], [4]. Among the corneal disorders, we find essentially acute corneal graft rejection [3]. The literature includes very few cases of post-vaccination ulcers. A case of PUK was reported in 2022 by Penbe [5]. Alliti et al. reported 1 case of perforation of Mooren’s ulcer after the second dose of the COVID-19 inactivated vaccine [6]. Khan et al. also reported an immune mediated keratolysis...
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Fig. 1. (a) and (b): Slit lamp picture showing the peripheral corneal ulcer with conjunctival hyperemia.

Fig. 2. (a) and (b): Slit lamp picture showing regression of inflammation and stability of the peripheral corneal ulcer after introducing systemic corticosteroid therapy and immunosuppressants.

less than 1 month after first dose of the COVID-19 recombinant vaccine [7]. These case reports would allow us to suggest the hypothesis that this vaccine would probably impact the corneal privilege of the cornea and thus the still poorly understood physiopathogenesis of Mooren’s ulcer. It could also be suggested that this vaccine could be considered among the triggering factors for Mooren’s ulcers when the etiological assessment is negative. Since studies in the current literature are mainly retrospective case series or isolated case reports, a causal link remains difficult to establish with certainty. Further research on this subject is needed.

4. Conclusion

The exact pathophysiology of mooren ulcer is a poorly understood subject. Also, the full extent of the corneal side effects of the COVID-19 vaccine remains unknown. Yet, the hypothesis that this vaccine could be a triggering factor remains very plausible. This subject needs more perspective and research.

Conflict of Interest

Authors declare that they have no conflict of interest.

References