

Macular Retinal Ischemia During Mediterranean Spotted Fever

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Abstract:

Background:

Mediterranean spotted fever (MSF) is a zoonosis endemic in Algeria. MSF is usually a benign self-limited exanthematous febrile illness. Rickettsia conorii is responsible for the disease due to its angiotropism for endothelial cells. It produces host cell necrosis, thrombosis, and organ dysfunction. Ophthalmologic manifestations are rare. We describe the case of a 24-year-old male with Mediterranean spotted fever who developed macular retinal ischemia. Treatment with intravitreal triamcinolone allowed a significant recovery of visual acuity.

Keywords: *Mediterranean spotted fever · Macular retinal ischemia.*

1. INTRODUCTION

Rickettsial spotted fever, which is caused by *Rickettsia conorii*, is known as Mediterranean spotted fever (MSF). *R. conorii* is transmitted to humans by tick bite. Cases occur mainly in the summer months in the Mediterranean basin. MSF is usually a benign self-limited exanthematous febrile illness. However, severe and fatal cases of the disease have been described. MSF complications have included acute renal failure, thrombocytopenia, myocarditis, pneumonitis, gastric haemorrhage, shock and multiple organ failure. Furthermore, a few reports in the literature have pointed out that ophthalmological involvement may occur in the course of MSF.

2. CASE REPORT

A 24-year-old healthy male with no history of ocular disease was observed in the infectious diseases unit with fever, myalgia, with 4 days of evolution, and a generalized rash for 1 day. He had contact with dogs. Physical examination revealed a well-oriented patient with stable vital parameters and a temperature of 39.2°C. There was a maculopapular rash on the upper limbs, abdomen, and the dorsal region. A black eschar was visible in the region of the left shoulder.

There were no meningeal signs and no cardiorespiratory or abdominal changes. His full blood count revealed a total white blood cell count of 5700/mm³ with normal differentials, hemoglobin 14.4 g/dl and with a platelet count of 120.000/mm³. His C-reactive protein level was 155 mg dl⁻¹. His prothrombin and partial thromboplastin time were normal. He also had the following: 980mg glucose dl⁻¹, 5mg creatinine dl⁻¹, 136U aspartate aminotransferase l⁻¹, 164U alanine transferase l⁻¹. Urinalysis and a chest radiograph were normal. Serology for *R. conorii* was positive with an IgM titer of 1/640. A PCR for detecting *R. Conorii* was positive from eschar swab sample. Autoimmune and thrombophilia studies were negative. The patient was prescribed oral doxycycline 100 mg every 12 h .for 7 days.

On the second day of hospitalization, the patient reported decreased visual acuity of the right eye.

A CT scan was performed which was normal. Observation revealed an RE VA of 20/100 and there was a superior temporal artery branch occlusion with perivascular sheathing in the ocular fundus as well as cotton wool spots and edema. Slit lamp biomicroscopic examination revealed unremarkable anterior segment and no vitritis in both eyes. Fluorescein angiography (figure 1) showed a central

macular retinal ischemia with superior temporal perivascular exsudates in right eye. Optical coherence tomography showed a central foveal thickness in the right eye. No abnormalities revealed in the left eye.

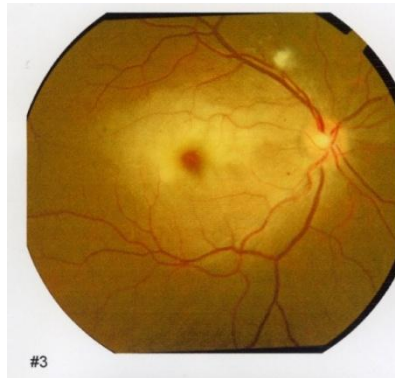


Figure1. Right eye: central macular retinal ischemia with superior temporal perivascular exsudates.

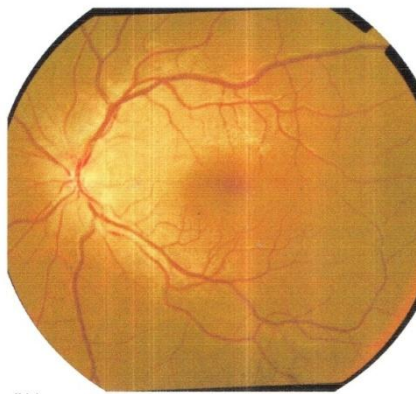


Figure2. Left eye: no abnormalities.

Diagnosis of ischemic maculopathy secondary to MSFvasculitis was made.

Intravitreal injection of triamcinolone acetonide 3.2 mg/0.08 ml was given only once and showed significant improvement of the retinal edema and a recovery of RE VA to 20/25 after one month. The vascular sheathing and the occlusion persisted and so did the corresponding scotoma in the visual field.

The total follow-up period is 1 year. No ocular side effects related to intravitreal triamcinolone were detected.

3. DISCUSSION

In Algeria, the incidence of Mediterranean spotted fever remains one of the highest among countries in the Mediterranean region. The course of the disease is usually self-limited and benign. Swabbing an eschar is a rapid technique. Several rickettsioses were diagnosed by using swab samples from skin lesions (1) as long as eschars were present. Rickettsial DNA was detected. The prognosis varies, depending on the virulence of the bacterial strain and the host comorbidities. Early treatment also affects the prognosis significantly. Ocular manifestations are rare and usually benign in association with MSF and the common findings are petechial lesions of the conjunctiva. Isolated case reports of optic neuropathy, uveitis, oculoglandular Parinaud's syndrome and retinal vasculitis have been reported (2-10). The ocular manifestations are often undervalued compared to systemic manifestations. Retinal lesions can be sight-threatening.

We describe a rare case of Mediterranean spotted fever and macular retinal ischemia. The lesion was detected only five days after the onset of symptoms and the patient had already started systemic therapy with doxycycline at this time. The mechanism of retinal injury is mainly inflammation and exudative with the macular edema, causing decreased visual acuity. Thus, treatment with intravitreal corticosteroids (triamcinolone acetonide) allowed the resolution of macular edema and visual recovery.

4. CONCLUSION

During the course of MSF, ocular symptoms should be evaluated because severe ocular complications can occur with a potentially irreversible loss of VA.

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