



Ocular Manifestations Secondary to *Mycoplasma Pneumoniae*: A Case Study

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Abstract

Introduction: Few studies have reported ocular manifestations secondary to *Mycoplasma pneumoniae*. The most frequent findings noted across literature are conjunctivitis, uveitis, and optic papillitis [5].

Case Report: The following case study presents an adolescent patient with unilateral, visually significant roth spots all throughout the macular and peripheral retina, associated with *Mycoplasma pneumoniae* meningitis. Treatment was indicated due to the development of a large subretinal hemorrhage. The patient was treated with anti-vascular endothelial growth factors (Anti-VEGFs) and Suprachoroidal Xipere (corticosteroid), followed by consistent observation from May 2024 to July 2025.

Discussion/Conclusion: The imaging obtained from each visit showcases the progressive cessation of roth spots and subretinal hemorrhage following intravitreal and suprachoroidal injections. These ocular manifestations secondary *Mycoplasma pneumoniae* meningitis, although rare, should be further investigated in regards to its mechanism and its behavior to medical treatment.

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Introduction

Mycoplasma pneumoniae (*M. pneumoniae*) is an atypical respiratory pathogen causing community-acquired pneumonia. *M. pneumoniae* typically induces respiratory tract infections, vastly in school-aged children who make up 40% of diagnoses,

occasionally causing extrapulmonary infections [1]. Presentations in the central nervous system (CNS) are more common among the rare extrapulmonary manifestations, affecting 7% of patients hospitalized by *M. Pneumoniae* [2]. Reports of CNS complications frequently emerging in literature include meningitis,

encephalitis, optic neuritis, and myelitis [3].

Ocular manifestations secondary to *M. pneumoniae* infection are exceedingly rare across literature. Existing reports indicate the development of conjunctivitis and uveitis as common ocular complications following *M. pneumoniae* infection with CNS presentations [4,5]. Investigating the role of *M. pneumoniae* in ocular pathogenesis suggests the pathogen could be an etiological agent in retinal manifestations. We present the case of a 17-year-old female who developed subretinal hemorrhages and Roth spots following *M. Pneumoniae* infection. Additionally, the patient's clinical findings, imaging, prognosis, treatment approach, and summary of other relevant literature are provided for essential information about the case and its clinical significance.

Case Report

In May 2024, a 17-year-old female presented in-clinic with the chief complaint of blurry vision in the right eye for the past 4 days. Her visual acuity was counting fingers at 2 feet in the right eye and 20/25 in the left eye. At the time of presentation, the patient was taking a 1-week course of oral azithromycin (250 mg tablets) and completing a 6-day oral methylprednisolone (4 mg tablet therapy pack) daily taper after contracting community-acquired pneumonia. The ocular findings based on optical coherence topography (OCT) and Optos imaging were Roth spots located throughout the macular and peripheral retina along with a large subretinal hemorrhage (See Figures 1A-1D). The lab workup results for leukemia came back negative. The results of an echocardiogram were normal, and we were able to rule out endocarditis. On slit-lamp examination, no signs of uveitis were found. The patient was treated with Intravitreal Avastin x5 and Suprachoroidal Xipere x1 over a 3-month-period. Around the 3-month-mark, the patient's condition was significantly improving. Following treatment, the patient was monitored over an approximate 1-year-period where her visual acuity was recorded at 20/30 in the right eye and 20/25 in the left eye. The latest OCT and Optos imaging are showcased in Figure 2A. The patient's condition was resolved and the patient was cleared for a new updated glasses prescription.

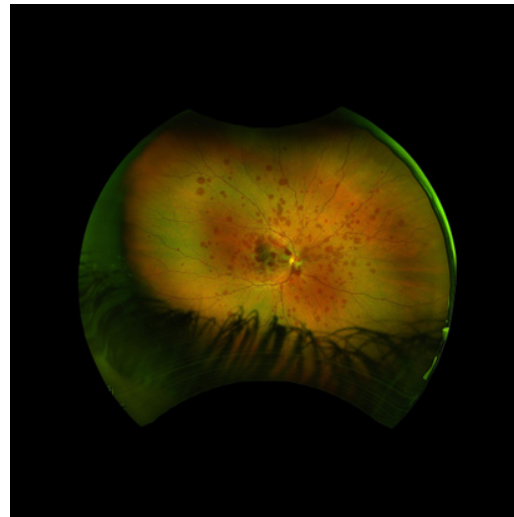


Figure 1A: Optos Initial Presentation - 05/31/2024

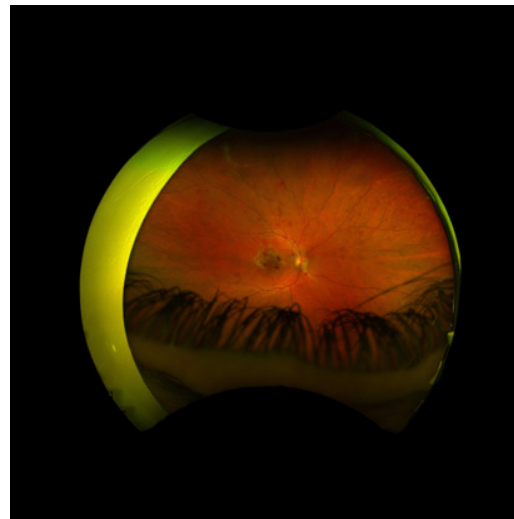


Figure 1B: After 2 Intravitreal Avastin and 1 Suprachoroidal Xipere - 06/26/2024

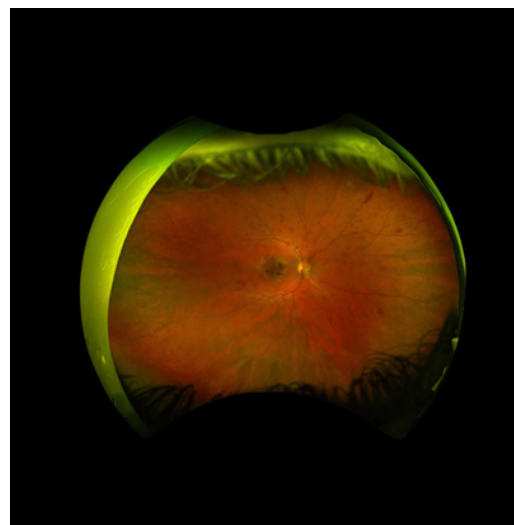


Figure 1C: After 3 Intravitreal Avastin and 1 Suprachoroidal Xipere - 07/05/2024

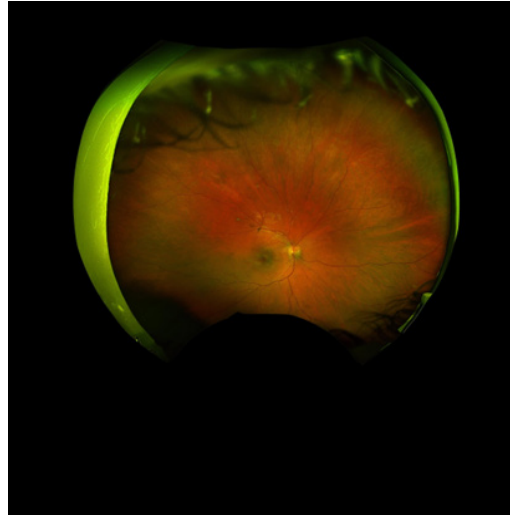


Figure 1D: End of Treatment Period (After 1 Suprachoroidal Xipere, 5th Intravitreal Avastin Given) - 08/21/2024

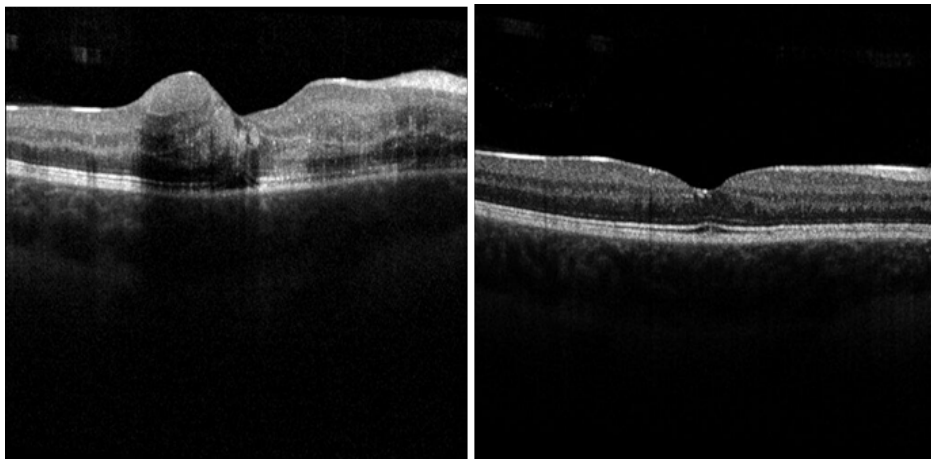


Figure 2A: OCT Initial Presentation vs Latest Visit (05/31/2024 vs 07/08/2025)

Discussion/Conclusion

There is a subtle presence of cases with ocular manifestations secondary to *M. pneumoniae* [6]. Subretinal hemorrhages are typically treated when it is secondary to other conditions such as Age-Related Macular Degeneration [7,8]. However, there is no additional evidence across literature that specifically discusses treatment of a subretinal hemorrhage due to *M. pneumoniae*. Our study highlights the improvement of Roth spot appearances over time and the resolution of the large subretinal hemorrhage post-treatment [9]. The mechanism of how these injections treat the subretinal hemorrhage is thought to be similar to other diagnoses that have similar secondary findings [7,8]. This case report is limited by its rarity to occur within a population. Further investigation of *M. pneumoniae* with ocular complications along with any respective treatment plans are indicated as cases present themselves throughout literature [10].

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