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Mycoplasma pneumoniae endophthalmitis in a Cuban pediatric patient

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Abstract

Bacterial endophthalmitis is the most severe form of vision-threatening ocular infection. *Mycoplasma pneumoniae* is a primary respiratory pathogen that has been associated with several extrapulmonary manifestation, including ocular infection. In this work, we presented the microbiology diagnosis of an endophalmitis by *M. pneumoniae* using a novel A.R.I. WELL D-ONE® (CPM Scientifica, Italy) commercial micromethod in a Cuban pediatric patient. After positive *M. pneumoniae* confirmation, treatment with levofloxacin was initiated and successfully eliminated the ocular infection.

Keywords

Mycoplasma pneumoniae, A.R.I. WELL D-ONE, endophalmitis

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Introduction

Bacterial endophthalmitis is the most severe form of vision-threatening ocular infection.[1] *Mycoplasma pneumoniae* (MP) is a respiratory pathogen that could cause ocular infection as extrapulmonary manifestation.[2] The diagnosis of MP infection is principally by PCR, but in Cuba, it is only possible at Mycoplasma Reference Laboratory from Pedro Kourí Tropical Medicine Institute (IPK). In this work, we presented a case of endophthalmitis by MP and the detection by a commercial kit A.R.I. WELL D-ONE® (CPM Scientifica, Italy), culture and PCR.

Case

A 2-month-old infant was attended at Juan Manuel Márquez University Pediatric Hospital (JMM) for an ocular infection in the right eye (RE). Clinical records showed that after delivery, the newborn was hospitalized at JMM for a severe neonatal sepsis, respiratory distress, and eyes opalescence. Clinical diagnosis of endogen endophthalmitis was done at ophthalmology service of JMM. Serial microbiological culture from blood and ocular swabs were negative and several syndromic antimicrobial treatments were used without improvement of ocular infection, including some intraocular antimicrobial injections.

At this time, the JMM treating medical team decided to perform the RE-vitrectomy with microbiological sampling of vitreous fluid (VF), because of the non-improvement of RE infection and the beginning of compromising of the left eye (LE). Bacteriological and mycological traditional culture for Gram-negatives, Gram-positives, anaerobic bacteria, and fungus were done with negative results. At the same time, the VF was inoculated in the A.R.I. kit and after 48 h, the kit was positive for MP (Figure 1). VF and the positive A.R.I. kit were sent to IPK for MP confirmation. MP qPCR for P1 gene was positive in the two samples. Glycolytic-mycoplasma typical culture in Friis medium[3] was recorded at 24 h from the positive wells of the kit and cultures of VF showed grown 7 days after inoculation. The mycoplasma isolate was identified as MP by PCR.

Negative results by the A.R.I. WELL were recorded to *Streptococcus pneumoniae, Streptococcus pyogenes, Streptococcus agalactiae, Haemophilus influenzae, Staphylococcus*

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Figure 1. A.R.I. WELL D-ONE® kit: (A) un-inoculated (negative control) and (B) inoculated with vitreous fluid after 48 h of incubation.

aureus, Mycoplasma hominis, Pseudomonas spp., and *Candida albicans.*

After positive MP confirmation, treatment with levofloxacin was initiated and successful elimination of the ocular infection of the LE was obtained after 14 days. At date, the boy is healthy, with vision diminution of the LE and no other clinical manifestation of MP as recorded by the treated physician.

Discussion

MP has been detected causing ocular infection but to our knowledge, this is the first report in Cuba and for a severe MP ocular infection with an eye loss outcome. Other internationally published investigation detects MP causing conjunctivitis, uveitis, and perineuritis, and some association was done with mycoplasma infections and these diseases.[4,5]

The present case showed that MP could be responsible for ocular infections in Cuba, and the A.R.I. WELL D-ONE® kit could be an alternative in the MP diagnosis in rare ocular infection. Future studies are necessary to know the real significance of MP as responsible for ocular infection in Cuba and the improvement of microbiological diagnosis with the introduction of new alternative accelerated micromethods.

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Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical approval

Ethical approval to report this case was obtained from *PEDRO KOURI TROPICAL MEDICINE INSTITUTE—INSTITUTIONAL REVIEW BOARD (CEI-IPK 33-12).

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Informed consent

Written informed consent was obtained from a legally authorized representative(s) for anonymized patient information to be published in this article.

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