Fungal retinitis following influenza virus type A (H1N1) infection

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A 43-year-old male presented with left eye foveal retinits causing an acute visual loss following influenza virus type A infection (H1N1 infection or Swine flu). Considering viral (influenza) etiology, a prompt treatment with oral corticosteroids was started. But an initial poor response prompted an immediate diagnostic vitrectomy, which revealed *Candida albicans*. The retinitis healed with scar formation following anti-fungal therapy. This case highlights that even in the setting of an acute retinitis in an immunocompetent patient with recent history of viral systemic illness, a high index of suspicion of a fungal (rather than viral) infection should be kept in mind.

Key words: Endogenous endophthalmitis, foveal, fungal, H1N1, influenza, retinitis, viral

Access this article online

Quick Response Code:

Website: www.ijo.in

DOI: 10.4103/ijo.IJO_1691_18

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Manuscript received: 22.11.18; Revision accepted: 10.04.19

Retinal involvement secondary to viruses can range from a self-limiting to a sight-threatening disease. Uveitis by Influenza A virus (H1N1) is uncommon.[1-4] We report a patient who developed acute foveal retinitis following H1N1 infection, which marked an early presentation of an endogenous fungal endophthalmitis.

Case Report

A 43-year-old male with bilateral pneumonitis and H1N1 (Swine-flu) infection, presented with decreased vision in left eye for five days. HIV was negative. Right eye was normal. Left eye had 3/60 vision with normal anterior segment and a yellowish-white, coin-shaped lesion at the fovea [Fig. 1a, left panel]. Spectral domain optical coherence

Cite this article as: Menia NK, Sharma SP, Bansal R. Fungal retinitis following influenza virus type A (H1N1) infection. Indian J Ophthalmol 2019;67:1483-4.

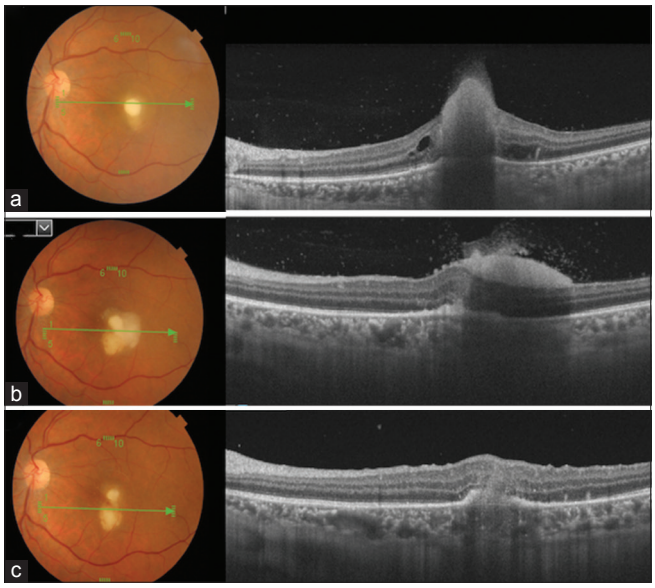

Figure 1: Left eye fundus photograph showing a creamish-white, coin-shaped lesion at the fovea (a, left panel). Simultaneous Optical coherence tomography (OCT) revealed a hyperreflective lesion involving all retinal layers and vitreous cells overlying the lesion (a, right panel). Fundus photograph 5 days later showing worsening of the retinitis lesion (b, left panel). The OCT showed that the lesion had spread horizontally over the retinal surface with an increase in vitreous cells (b, right panel). 2 days following vitrectomy, the lesion showing marked decrease in the size on fundus photograph (c, left panel) and on OCT (c, right panel))

tomography (SD-OCT) revealed a hyperreflective lesion at fovea involving all retinal layers [Fig. 1a, right panel]. Fluorescein angiography was inconclusive. Considering the recent viral febrile illness and positive H1N1 test, oral corticosteroids were started empirically for sight-threatening viral retinitis.

5 days later, the lesion worsened clinically [Fig. 1b, left panel] and on SD-OCT [Fig. 1b, right panel]. Following a diagnostic pars plana vitrectomy, the lesion regressed as seen clinically [Fig. 1c, left panel] and on SD-OCT [Fig. 1c, right panel]. Fungal smear revealed septate branching hyphae [Fig. 2a], panfungal polymerase chain reaction was positive [Fig. 2b]. BLAST analysis showed *Candida albicans* amplicon. Following oral antifungal therapy, the lesion was healed at 2 months [Fig. 2c].

Discussion

Retinal involvement due to H1N1 is rare and responds to systemic corticosteroids. Diagnosis of endogenous candida endophthalmitis is challenging, especially during the first stage of the disease, which is often limited to chorioretinal involvement.[5]

Our case highlights the importance of a high index of suspicion of fungal infection in the setting of an acute retinitis,

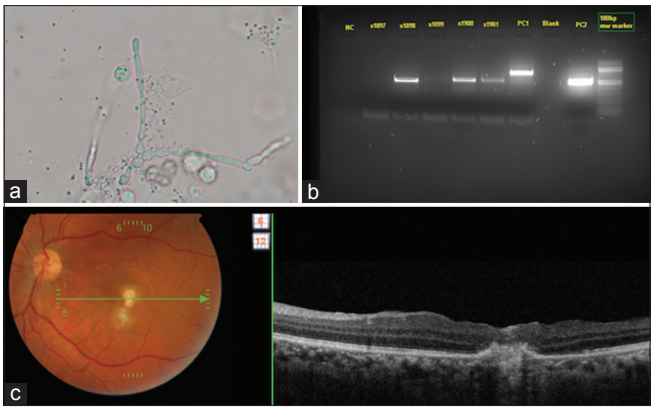

Figure 2: KOH mount of the vitreous aspirate obtained from above the retinal surface showing septate branching hyphae (a): Gel documentation picture showing a positive panfungal PCR; (b): Lane 1 (Negative control), Lane 3 (patient sample with positive PCR), Lane 7 (Positive control 1), Lane 8 (Blank), Lane 9 (Positive Control 2), Lane 10: Molecular marker. Fundus photograph at 2 months, showing the healed lesion (c, left panel) with scarring on OCT (c, right panel)

in an immunocompetent patient with recent history of a viral systemic illness, to differentiate between the two, as the treatment is completely different.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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