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Acute Retinal Necrosis – Early Diagnosis is Key to Outcome

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Abstract

- Acute Retinal Necrosis (ARN) can have extremely devastating effects on the vision of both healthy and immunocompromised individuals. Many times the exact pathogen of ARN can remain a mystery due to its silent and asymptomatic nature. When present, sudden onset along with the loss of vision prior to vitreal biopsy. One of the known pathogens is the Herpes Zoster Virus (HZV).

- When Herpes Zoster Virus attack the retina, there are very devastating effects due to ARN including long term complications and blindness. A review of literature looked at the retrospective studies related to the incidence and prevalence of ARN caused by HZV. With an incidence of 1 case per 1.6 – 2.0 million population per year (Papageorgiou, Ching, Kulkami, Anwar, & Empedocles, 2014). Acute Retinal Necrosis (ARN) can have extremely devastating effects on the vision of both healthy and immunocompromised individuals. A correlation of ARN and HZV might explain the complications and treatments related to herpes zoster of the retina. The results show how multiple healthcare providers can quickly identify and seek specialized treatment to preserve the patient’s eye site. These results indicate that there are more detrimental eye related conditions that are associated with herpes zoster virus than previously thought and how seeking coordinated specialized treatment can minimize the long term complications.

Introduction

- Herpes Zoster Virus (HZV) of the retina is a painless process that can progress very rapidly. HZV attacking the retina leads to Acute Retinal Necrosis (ARN) causing very devastating effects risking both the short term and long term outcomes of a patient’s visual acuity.

Statement of the Problem

- Acute Retinal Necrosis can be a devastating disease that can lead to very dramatic lifestyle changes due to permanent vision deficit and/or loss. The disease can show up suddenly and progress very rapidly as well. Some of its early onset of symptoms could potentially be dismissed to age related visual changes from posterior vitreal detachment. However, on fundus exam changes to the retina can be spotted leading the provider to take some prompt action. There is some speculation that some sudden vision loss in the adult population can be associated to ARN in patients that never received eye exams until after the retina had detached completely.

Research Question

- In adult patients with sudden onset visual disturbances caused by acute viral retinitis, does immediate surgical intervention along with an antiviral agent have a more favorable outcome than antiviral agents alone.

Literature Review

- Reviewing the literature, shows that the earlier the patient is evaluated and the referral to an ophthalmologists that specializes in disorders of the posterior aspect of the eye, the patient will have a more favorable outcome. The longer the patient is delayed in their treatment, the more damage will be done to the retina decreasing the best visual acuity in the long term.

- When a patient is presenting with signs of Acute Retinal Necrosis, there will need to be a rapid treatment course in order to preserve the patient’s long term visual outcome.

- The cause of this treatment will not be one that will only require a few days of treatment, this will be a treatment course that will require dedication and patience on both the patient as well as the provider as this may last for months to years. Depending on the causative agent, there may be relapses from time to time that will require need for immediate evaluation and possible treatment.

- The vitreous inflammation that occurs in these relapses increases the intraocular pressure causing several other ocular problems. These problems include but not limited to optic nerve damage, posterior subcapsular cataract (PSC) formation, ciliary macular edema (CME), and vasculitis associated macular degeneration.

Discussion

- When a patient is presenting with signs of Acute Retinal Necrosis, there will need to be a rapid treatment course in order to preserve the patient’s long term visual outcome.

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Applicability to Clinical Practice

- How can a PCP initially suspect would be a patient that is seen in the office for visual changes in one or both eyes with or without a minimal amount of pain, anterior uveitis, or a positive skin test result or new presence of “floaters” in the eye.

- As a primary care provider, a call to an ophthalmologist needs to be made quickly when there is any suspicion of Acute Retinal Necrosis. This call should include questions in regards to the diagnostic studies that the ophthalmologist would like to have drawn now as well as if there is an antiviral that the ophthalmologist would like started. The ophthalmologist will likely request that a CBC, CMP, and blood cultures be obtained as well as starting the patient on an antiviral medication to help prevent further damage.

- In ophthalmology, the patient will then be evaluated for the severity of the disease and the course of treatment will then be initiated. In the severe cases with the necrosis showing around the entire periphery of the retina, the patient will likely be taken to the OR for vitreal biopsy(ies) and given intravitreal antiviral flushing with a vitrectomy.

References


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