A rare case of fungal keratitis caused by curvularia Lunata in jazan city (Prince Mohammad Bin Naser Hospital)

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Introduction

A 74 year old male individual visited our ophthalmology clinic at the Prince Mohammad Bin Naser Hospital in Jazan city in the month of January 2016. The ailment that he was suffering from had manifested in the form of signs such as suppurative ulceration of the cornea in the right eye, showing that it was a chronic case of fungal keratitis. The symptoms that were apparent due to the ailment also included visible infiltration of the cornea by the fungal pathogen through the use of superficial filaments that were largely feathery in shape. The risk of complications due to the infection was increased to a large degree owing to the presence of hypopyon in the anterior chamber of the eye. The hypopyon could be clearly visualized on observation under a clinical environment during the first phase of trials, characterized by a mass of white blood cells which had accumulated in the anterior chamber and was visible through the iris. The presence of the hypopyon indicates that the infection might have been discovered quite late in terms of the time of the onset, namely apparent due to the considerably low degree of precedence of this condition during fungal eye infections occurring due to organisms like Curvularia lunata.

Case Report

The source of the infection has been mainly attributed to the interaction of the subject with soil particles which might have contained spores of the fungi. The cause seems to be attributed to an irritation which had happened in the right eye when the male was driving on a two-wheeler to work. The irritation seems to have subsided thereafter for at least a few days, prior to which reddening as well as itching of the eye was commonplace immediately after foreign dust particles had initiated the condition. The flying dust particles which are common on the roads of Jazan, especially the dirt roads on the outskirts, seem to be the major problem in this case as they have been directly associated with the irritation that the patient felt. There seems to have been a definite buffer time period of at least 20 days during which the fungus developed and started to cause noticeable issues.

One of the first symptoms, which cannot be classified as being universal for all cases of Curvularia lunata, is irritation in the infected eye, accompanied with issues like redness. The redness , in case of this particular patient, was seen to be a direct result of itching of the eye due to the entry of dust particles into the corneal area. Another early symptom, which yet again cannot be classified as one which indicates a direct indication of the infection by the fungal agent that is being considered in this case report, is the formation of discharge along with the redness of the eye. However, when considered along with the later symptoms which emerged as a result of the infection, these elements seem to be quite connected with the chain of events that characterize the development of the infection as a whole.

One of the most prominent symptoms, especially from the perspective of making the patient aware of the problem in the first place, was the presence of cloudiness in the right eye which started to emerge after a specific period of time. There seemed to be some form of vitreous opacity as well as in the later stages of the development of the infection, essentially resulting in decreased visibility from the infected eye. The development of dendritic and feathery processes in the region of the ulceration present within the cornea of the patient confirmed that it was a definite fungal infection. The ulcer was also accompanied by symptoms like edema and inflammation, which were mostly prevalent during the later stages of development of the infection.

Corneal scraping was done in order to collect the samples of the Curvularia lunata fungus from the eye of the patient. The corneal scrapings were used for creating cultures of the fungi on two main types of media, namely Blood Agar (BA) and Chocolate Agar (CA). The growth of fungal colonies, which were dark in color/shade, was observed within the time span of 1 week. The texture and overall formation of these colonies showed them to be dematiaceous in nature. After the growth of the fungal colonies within the media, trials were conducted in order to examine the ways in which the infection could be mitigated and managed in as efficient a way possible. The medicine Natamycin was seen to be immensely effective in decreasing the growth of the culture to a large extent. The secondary trials which were conducted on the patient also seemed to be immensely effective making it the drug of choice as far as this type of fungal infection is concerned.

However, the fungal infection is not the only aspect that needed to be treated in

case of the patient, owing to the way in which hypopyon had manifested in the eye. Hence, along with the use of Natamycin, other therapeutic measures were used for the sake of treating the infection and the side-effects of the fungal growth. The treatment of this particular aspect of the disease was done through the use of antibiotic agents and cycloplegic medications. During the treatment, the use of topical corticosteroids was also done in order to ensure that the infection can heal rapidly and without any apparent side-effects. The later stages of the treatment showed a considerable lapse in the overall degree of vitreous debris within the eye, showing that the infection had healed, while also resulting in a definite degree of improvement in eye-sight of the patient.

Discussion

One of the most important lessons that were garnered through the study as a whole was the incidence of such types of infections amongst individuals who were suffering from peripheral conditions that somehow contributed to the development of the infection in the first place. In this case, the peripheral condition that the patient suffered from was diabetes mellitus, which resulted in the sustenance and the continuity of the infection to a larger extent (Wilhelmus & Jones, 2001). Moreover, the core essence of the treatment involved continuing therapeutic sessions on a periodic manner, while also ensuring that the patient was initiated into defined diabetes medication courses. Another major aspect that was considered during the treatment process was the reduction of the chances of remission. Chronic mold infections are bound to be immensely capable of pushing the patient back into remission and hence, proper measures need to be taken in order to contain the

same (Guarro, Ferreira-Gomes, Aguilar, & Ortoneda, 1999). Due to this, the use of medications such as intravenous voricanzole and amphotericin B was also considered in order to provide a more effective manner of dealing with the infection as a whole.

Bibliography

Guarro, J. A.-H.-F., Ferreira-Gomes, S., Aguilar, C., & Ortoneda, M. (1999). Mycotic Keratitis Due to Curvularia senegalensis and In Vitro Antifungal Susceptibilities ofCurvularia spp. *Journal of clinical microbiology, 37(12)*, 4170-4173.

Wilhelmus, K. R., & Jones, D. B. (2001). Curvularia keratitis. *Transactions of the American Ophthalmological Society, 99*, 111.