Lower eyelid aspergillosis infection mimicking a pyogenic granuloma in a pregnant lady

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DESCRIPTION

Aspergillus is a transient contaminant of the ocular flora.¹ It can cause a variety of infections in the eye, ranging from keratitis to endophthalmitis to orbital cellulitis. While invasive fungal infections are classically described in immunocompromised states, they have also been described in immunocompetent individuals.

Pregnancy is not an immunocompromised state; however, there is a high degree of immunomodulation occurring in the mother's body to save the fetus from rejection. These modulatory processes are highly selective in its areas, and most other systemic organs have a negligible spillover of this effect.

A 34-year-old pregnant woman presented with a pigmented mass in her left lower eyelid for the past 2 weeks (figure 1). The patient was at 7 months of gestational age.

On examination, she was alert, conscious with stable vitals. There was no evidence of any fever, pallor or icterus. On ocular examination, visual acuity in both eyes was 6/6, with intraocular pressure of 12 mm Hg and 14 mm Hg in the right and the left eye, respectively. There was a large pigmented mass on the left lower eyelid measuring 16×12 mm, along with mechanical ectropion of the lower lid. On slit lamp examination, there was left palpebral conjunctival congestion adjacent to the mass. Rest of the anterior segment and posterior segment examination of both eyes were within normal limits.

Based on the appearance, a provisional diagnosis of left eye lower eyelid pyogenic granuloma was made and the patient was planned for excision biopsy of the lesion. The biopsy was performed, and the lesion was removed (figure 2). Histopathological examination of the lesion revealed septate hyphae suggestive of aspergillosis (figure 3). However, the removed mass was not sent for microbiological studies. At the 3-week follow-up, the patient did not have any evidence of recurrence (figure 4).

Aspergillus is a ubiquitous fungus found particularly in the soil and decaying vegetation.² There

Figure 2 Excised mass measuring 16×12 mm in size.

are four main types of *Aspergillus*: *Aspergillus fumigatus*, *A. flavus*, *A. lentulus* and *A. nidulans*. *A. fumigatus* and *A. flavus* are the most common fungal contaminants of the sinuses and have the potential to infect the orbit.³ Invasive sino-orbital aspergillosis in healthy individuals have often been reported from South Asian countries as India. These regions share a hot and humid climate which favours fungal growth and there are a large number of fungal spores in the environment. Even healthy individuals are at risk of sino-orbital aspergillosis. However, it is more seen in immunocompromised hosts.

A pregnant woman has a predisposition to individual microorganisms, depending on how the immune response of her fetoplacental unit behaves.⁴ It is a distinctive immunological state, making the individual vulnerable to a specific set of infectious diseases and resistant to others. Thereby making it a challenging task to decide on how to strategise,

Figure 3 Histopathology slides showing septate hyphae, suggestive of *Aspergillus* infection.

Figure 1 Clinical picture of the patient at presentation.

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Figure 4 Clinical picture of the patient at 3-week follow-up.

prevent and treat any such infections during pregnancy. As and when required, the maternal immune system sends signals and alerts to keep up the safety and security of both the mother and the fetus, it being a strengthened grid of identification, relay and repair. Therefore, pregnancy cannot be called an immune-compromised situation.

This eccentric behaviour describes the varied response of a pregnant woman to a pathogen. Thus, making pregnancy, not

Patient's perspective

I had a large mass in my left eyelid, I am happy that the doctors removed it.

Learning points

- ▶ *Aspergillus* infection can occur in immunocompetent pregnant individuals and presentations may be varied.
- ▶ Prompt treatment can have favourable results.

just an immunocompromised state, but rather a condition with modulation of the immune system responding to the microorganism or its products differently in its various stages.

In this case, a slow-growing mass was assumed to be a pyogenic granuloma given the hormonal status in pregnancy. The immunomodulation could be one of the reasons that there was minimal reaction to a florid fungal proliferation. Treatment in this case was preferred to be topical (given the limited experience with antifungal drugs in pregnancy) but oral drugs could be used in case of a severe infection after the first trimester so that the potential teratogenic effect can be minimised.

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