

## Chapter 2

# Etiological Agents and Epidemiology

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The incidence of ocular fungal infections has increased substantially over the past decades because of the increased number of patients with acquired immunosuppression secondary to extended use of immunosuppressive agents, long-term broad-spectrum antibiotics, and AIDS.<sup>1-5</sup> The pathogenesis of infections is linked to the epidemiology of disease. Frequently isolated fungal agents causing ocular mycosis and risk factors are depicted in **Table 2.1**.

The term endogenous endophthalmitis indicates to blood borne spread of microorganisms into the eye. Mainly, neutropenic immunosuppressive patients undergo blood borne infections and fungemia. *Candida* species are the most common cause of endogenous endophthalmitis which usually develop in immunocompromised patients having chronic underlying systemic disease, an associated septicemia for which broad spectrum systemic antibiotic therapy is being administered, intravenous hyperalimentation with chronic indwelling catheters or an organ transplantation that requires immunosuppression.<sup>6-8</sup> Intravenous drug abusers, patients with diabetes and AIDS are also at high risk for endogenous fungal endophthalmitis (FE). Abdominal surgery is another risk factor for candidemia and hence for endophthalmitis. Common end organ target of fungemia is eye in many cases. But the reason of this tropism is unknown.<sup>9-11</sup> *Aspergillus* species are the second most common cause of endogenous fungal endophthalmitis. *Aspergillus flavus*, *A. fumigatus*, *A. niger*, *A. terreus*, *A. glaucus*,

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