Nr566 Pharm

Hello Professor and Class,

Emiliano Aguilar Case Discussion: Aspergillosis in the Context of HIV

A 29-year-old man named Emiliano Aguilar has been experiencing symptoms such as fever, chills, hemoptysis (coughing up blood), shortness of breath, joint pain, and headache for a month since moving into a new apartment. He is especially worried that mold exposure in his new living space may be the cause of his illness. He has a medical history of HIV, for
which he is currently taking 300 mg of abacavir, 150 mg of lamivudine, and 300 mg of zidovudine (Trizivir) twice a day. The laboratory results indicate positive biomarkers for Aspergillosis, with both serum galactomannan and sputum testing confirming the presence of the infection; his most recent CD4 count is 350, placing him in a vulnerable group for opportunistic infections.

Assessment of the Clinical Practice Guideline (CPG)

Invasive Aspergillosis (IA) is a serious and potentially fatal infection that primarily affects people with compromised immune systems, such as those with HIV. Antifungal therapy is recommended by the clinical practice guideline (CPG) for the treatment of Aspergillosis in immunocompromised individuals, especially those with HIV. Voriconazole, is frequently
less toxic and more effective than older alternative antifungals like amphotericin B (Clary et al., 2025).

The CPG would strongly advise beginning voriconazole as the preferred antifungal, with close monitoring of liver and renal function, especially since Emiliano recently moved to a new living environment that may have mold exposure, because his CD4 count of 350 puts him at heightened risk for opportunistic infections like Aspergillosis. Depending on the severity of the infection and the patient's immune response, additional treatment options might involve the use of immunomodulators or steroids (Gupta et al., 2021).

Pharmacological Treatment

Given the severity of Emiliano's symptoms, which include hemoptysis and shortness of breath, antifungal therapy should be started right away. The best course of treatment for Emiliano would be voriconazole, which inhibits the synthesis of ergosterol, an essential component of the fungal cell membrane that effectively inhibits fungal growth. Emiliano's liver and kidney function tests are also normal, but since voriconazole can have nephrotoxic and hepatotoxic effects, it is important to regularly monitor these functions
during treatment. The patient's response to treatment should be closely monitored through