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Letter to the editor regarding "Allergic bronchopulmonary aspergillosis in a patient with diabetes mellitus as the only risk factor"

Carta al editor relacionada con "Aspergilosis broncopulmonar alérgica en un paciente con diabetes mellitus como único factor de riesgo"

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Dear Editor:

We hereby comment on the publication on "Allergic bronchopulmonary aspergillosis in a patient with diabetes mellitus as the only risk factor.1" This case involves a 42-year-old diabetic male who did not adhere to therapy, developed dyspnea quickly, and suffered from acute hypoxia. A diagnosis of bilateral pneumonia with pleural effusion was made, along with an eosinophilic inflammatory response and laboratory data indicating a probable fungal infection. The patient was treated with supplementary oxygen, prednisone, and itraconazole, which resulted in clinical and radiological improvements. However, some features of this event raise concern that warrant additional research.

One key worry is the patient's lack of adherence to diabetes management. Chronic hyperglycemia, defined as a HbA1c of 9.4%, can severely damage the immune system, increasing the patient's risk of infection, including fungal infections like *Aspergillus fumigatus*. Corticosteroids and antifungal drugs significantly improved this patient's condition, but it raises the question of whether greater diabetic control can prevent the infection from progressing. This emphasizes the significance of comprehensive management, as adhering to both diabetes and infection control can result in improved outcomes. Broader conversations could center on new techniques to improving patient adherence to chronic illness care. Especially in the presence of comorbidities like diabetes,

Another notable finding was a rise in eosinophil count to 3,650 cells/mL. Eosinophilia is frequently related with allergic responses, parasite infections, and some autoimmune disorders. This case demonstrates that pneumonia's pathogenesis may include an allergic or inflammatory response. The elevated eosinophils, together with the IgE positive for *Aspergillus fumigatus*, indicate that allergic fungal sinusitis or invasive aspergillosis may be contributing to the patient's symptoms. The involvement of eosinophils in infections, particularly fungal infections, warrants additional exploration, as eosinophils are not typically thought to be a key immunologic effector in fungal infections. Future research will assess how eosinophils contribute to the immune response in such illnesses, as well as whether targeting the eosinophilic pathway has any therapeutic benefits.

Finally, the combination of itraconazole and prednisone in this case calls into doubt the safety and efficacy of immunotherapy in fungal diseases. Corticosteroids are routinely used to treat inflammation, but they can also put patients at risk for developing fungal infections due to a weakened immune system. Balancing the requirement for immunosuppression against the risk of opportunistic infections remains a critical challenge in clinical practice. Future methods may involve considering the proper use of immunosuppressive medications, such as corticosteroids, in patients with fungal infections, especially those with underlying medical problems like diabetes. Furthermore, novel antifungal drugs and combination therapies may offer more effective treatment alternatives while posing less risks.

CONCLUSION

This case demonstrates the difficulty of managing patients with numerous comorbidities and infections, as well as the significance of addressing underlying illnesses like diabetes to lower the risk of catastrophic infections. The involvement of eosinophils in fungal infections, as well as the safety of immunotherapy in immunocompromised patients, has sparked widespread discussion about its use. More study into these areas is required to improve patient outcomes and treatment options.

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AI declaration

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REFERENCES

1. Hernández-Solís A, Velázquez-Sámano G, Apolinar-Juárez V, Mojica Jaimes E, et al. Allergic bronchopulmonary aspergillosis in a patient with diabetes mellitus as the only risk factor. Rev Alerg Mex 2024; 71 (3): 212-215. doi: https://doi.org/10.29262/ram.v71i3.1383