

## Conference Abstracts

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# When Immune Dysfunction Dominates: Extensive Invasive Aspergillosis Revealing Previously Undiagnosed Chronic Lymphocytic Leukemia

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## Abstract

### Background

Chronic lymphocytic leukemia (CLL) is characterized by progressive humoral and cellular immune dysfunction that predisposes patients to recurrent and opportunistic infections, making infectious complications the major cause of morbidity and mortality in CLL patients. We report a case in which extensive invasive aspergillosis revealed previously unrecognized CLL, illustrating the profound immunosuppression that can accompany this hematological malignancy.

### Methods

An 86-year-old man with longstanding diabetes mellitus presented with malignant otitis externa that progressed to mastoid and temporal bone osteomyelitis with intracranial extension and a temporal lobe abscess. Surgical pathology showed fungal hyphae, and cultures grew *Aspergillus fumigatus*. Evaluation of persistent lymphocytosis revealed trisomy 12-positive CLL (Rai stage III, Binet stage B). Despite preserved

neutrophil counts, the patient's CLL-associated immune dysfunction, including impaired humoral immunity and cellular immune dysregulation, was thought to have substantially contributed to his susceptibility to invasive aspergillosis. He underwent surgical debridement, followed by prolonged voriconazole therapy, intravenous immunoglobulin replacement, and initiation of zanubrutinib for management of CLL.

### Conclusion

Although CLL is traditionally recognized as a hematological malignancy, its associated immune dysfunction is an equally important manifestation that may dominate the clinical presentation. This case demonstrates that profound immunosuppression associated with CLL can predispose patients to life-threatening opportunistic infections, even before the underlying condition is discovered. Recognizing the immunologic consequences of CLL is essential for comprehensive management, which requires not only aggressive management of opportunistic infections but also treatment of the underlying malignancy.

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