An 8-year-old Thai boy presented with a two-week history of anemia, abnormal purpura in both legs, and was diagnosed with B-cell acute lymphoblastic leukemia (B-cell ALL). Following Thai-POG guidelines, he underwent chemotherapy and received trimethoprim-sulfamethoxazole prophylaxis. However, he developed febrile neutropenia and, despite initial treatment with intravenous meropenem and amikacin, showed no improvement. After a week of febrile neutropenia, a chest CT scan revealed multiple lung nodules (Figure 1a). Bronchoalveolar lavage confirmed a positive galactomannan level (1.12 ng/mL). The patient received voriconazole with therapeutic drug monitoring (level: 4.7 μg/mL). Despite this, he experienced progressive dyspnea and hypoxia, and a chest X-ray revealed bilateral ground glass appearance in the lower lungs (Figure 1b). Sputum analysis detected Pneumocystis Jirovecii Pneumonia (PJP) (Figure 1c). Treatment included trimethoprim-sulfonamides, prednisolone, and voriconazole. Within two days, the patient’s symptoms improved. Treatment duration for PJP was 21 days, followed by continued trimethoprim-sulfonamides prophylaxis. Voriconazole was maintained until resolution confirmed by imaging (approximately 6 months). The clinical manifestations of aspergillus infection vary, including ABPA, aspergilloma, chronic aspergillosis, and invasive aspergillosis [1]. Neutropenia duration correlates with the risk of invasive pulmonary aspergillosis [2]. Pneumocystis jirovecii is an opportunistic pathogen, affecting about 12% of children with acute lymphocytic leukemia [3]. A British study reported a 7% annual increase in PJP cases, deaths, and hospital admissions in England from 2000 to 2010 [4]. Both IPA and PJP pose significant threats to immunocompromised children. Although coinfection is rare, this case underscores the importance of a multidisciplinary approach, timely identification, and appropriate interventions for successful outcomes.

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Figure 1: Bilateral ground glass appearance at both lower lungs (b). Giemsa and silver stain show the dark staining (brown to black) of *Pneumocystis* cysts (c).

References


