

SEVERE COVID-19 PNEUMONIA IN A CHILD WITH ACUTE LYMPHOBLASTIC LEUKEMIA

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Introduction: Since the beginning of the Covid-19 pandemic, children are more likely than adults to have asymptomatic or mild infection. Children with hematological malignancies could be more susceptible to severe COVID-19 disease due to their immunosuppressive state caused by the malignancy and anticancer treatment.

Case report: A 2-year old girl was diagnosed with standard-risk precursor-B cell acute lymphoblastic leukemia (ETV6-RUNX1 positive) and underwent treatment according to ALL IC BFM 2002 protocol, achieving a complete remission. At the end of the early intensification phase IB the child experienced febrile neutropenia. The workup included a SARS-CoV2 test by real-time reverse transcription polymerase chain reaction (RT-PCR) in a nasopharyngeal swab sample, which was positive. Blood cell count showed post-chemotherapy aplasia. The infectious disease was characterized by a severe course complicated with gastrointestinal symptomatology and respiratory failure due to massive bilateral pneumonia requiring supplemental oxygen. Several potential therapies including supportive interventions, intravenous immunoglobulins, oral azithromycin, corticosteroids (dexamethasone), IL-6 inhibitor (tocilizumab) and transfusion of convalescent plasma were applied. The child responded to this treatment with significant improvement in clinical and pulmonary function, allowing discontinuation of oxygen therapy. The repeated PCR test for COVID was negative for 4 weeks' post-symptom onset. After being cured successfully, she continued intensive chemotherapy according to the protocol followed by prolonged low-intensity maintenance phase and has remained in continuous complete remission.

Conclusion: This case report represents a good example of the severe clinical course of COVID-19 infection in immunosuppressed patient achieving favorable outcome following use of specific therapy.