

# One year of Lung Ultrasound in children with SarsCoV2 infection admitted to a tertiary referral children's hospital: a retrospective, single-center study, during 2020-2021 period.

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September 24, 2021

## Abstract

**Background:** The aim of this study was to analyze the lung ultrasound (LUS) patterns in combination with clinical-laboratory profiles of children hospitalized for COVID-19 infection in relation to temporal trend of the Italian epidemic. **Methods:** This was a retrospective study conducted at a pediatric tertiary referral hospital from 15th March 2020 to 15th March 2021. We compared the characteristics of two periods of the pandemic outbreak, the first one in spring and summer (15th March-30th September 2020) and the second one in autumn and winter (1st October 2020-15th March 2021). **Results:** 28 patients (53.85%) were in the first period, 24 patients (46.15%) were in the second period. The disease severity score was significantly higher in the second period ( $p=0.02$ ). We observed that the occurrence of the irregular pleural line was seen more frequently in the second period (87.5% vs 60.71%;  $p=0.03$ ). The B-lines were significantly more frequent in children in the second period (87.5% vs 60%;  $p=0.03$ ). The several but not-coalescent B-lines were significantly more frequent in the second period (80% vs 41.7%;  $p=0.05$ ). The LUS score correlated significantly with the disease severity score with a strong relationship ( $r=0.51$ ,  $p=0.002$ ). The second phase of the COVID-19 epidemic outbreak had a higher disease severity score than the first phase with a moderate correlation ( $r=0.42$ ;  $p=0.01$ ). **Conclusion:** The LUS plays an important role in the evaluation of pulmonary involvement in children affected by COVID-19 during different periods of the pandemic in combination with clinical-laboratory findings.

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