

Serial Computed Tomography Manifestations in a Child with Coronavirus Disease (COVID-19) Pneumonia

(This is a preprint version of an article submitted for publication in Indian Pediatrics. Changes may be made before final publication)

PII: S097475591600158

ABSTRACT

Computed tomography (CT) manifestations and treatment of children with COVID-19 are still unclear. We report serial CT findings of a child with COVID-19 pneumonia who recovered without any sequelae.

Keywords: *Diagnosis, Imaging, SARS-CoV2, Outcome.*

Novel coronavirus disease (COVID-19) is a highly infectious disease with its outbreak in China in late 2019 [1]. The novel coronavirus is reportedly affecting more adults than children [2,3]. Here, we provide computed tomography (CT) findings in a typical pediatric case with confirmed COVID-19 infection.

An 11-year-old boy, the close contact of confirmed COVID-19 infected father, presented to hospital with high fever for 10 days. He was confirmed COVID-19 infection by throat swab specimen test using Real time – polymerase chain reaction (RT-PCR) method.

His symptoms relieved somewhat after interferon α -2b combined with aerosol therapy in a local hospital. On admission, arterial blood gas analysis showed a low PaO₂ of 69.6mmHg. Chest CT was performed, which showed patchy ground-glass opacities in left lower lobe with air bronchogram (**Fig. 1a**). He was diagnosed as COVID-19 pneumonia. During hospitalization, the child received recombinant human interferon alpha-2b (rhIFN α 2b) twice-a-day through nebulization combined with Complementary and alternative medicines. Supportive care including nasal cannula (maximum oxygen requirement 2L/min) was administered. CT done one week later (day7) showed scattered ground-glass opacities in left lower lobe (**Fig. 1b**). After two weeks of therapy, only slight sporadic ground-glass opacities in left lower lobe were found in repeat chest CT (**Fig. 1c**). Realtime RT-PCR on two throat swab specimens was negative for the COVID-19 at 14 weeks, 48 hour apart. The boy made a complete recovery.

This communication underscores the course of CT findings in COVID-19 pneumonia in a child without any co-morbidity, who improved after treatment.

Competing interests: none stated. *Funding:* Wenzhou Municipal Science and Technology Bureau (ZY202004).

Authors' contributions: GH,JC: conceptualized the study, collected data, and reviewed and revised the manuscript; WS: conceptualized the study, drafted the initial manuscript, and reviewed and revised the manuscript; JW: carried out the analyses, and reviewed and revised the manuscript. All authors approved the final manuscript as submitted.

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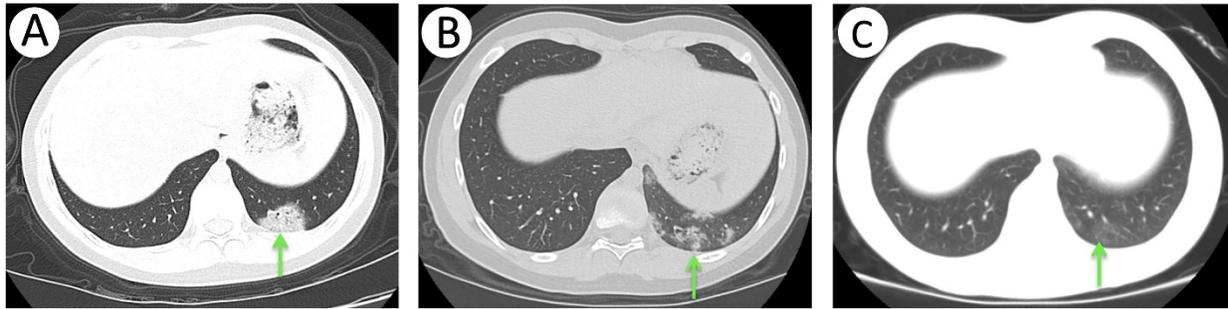


Fig. 1 Chest computed tomography (CT) scans in an 11-year-old boy with the coronavirus disease-19. a) Chest CT performed on the day of admission shows patchy ground-glass opacities in left lower lobe with air bronchogram; b) Follow-up CT obtained on day 7 shows scattered ground-glass opacities in left lower lobe which were partly resolved; c) Follow-up CT obtained on day 14 shows slight sporadic ground-glass opacities in left lower lobe which have significantly resolved.