Pediatric lung imaging features of COVID-19: A systematic review and meta-analysis. Gustavo Nino MD, MS et al. PEDIATRIC PULMONOLOGY Sep 2020

Rationale: Pediatric COVID-19 studies have been mostly restricted to case reports and small case series, which have prevented the identification of specific pediatric lung disease patterns in COVID-19. The overarching goal of this systematic review and meta-analysis is to provide the first comprehensive summary of the findings of published studies thus far describing COVID-19 lung imaging data in the pediatric population.

Methods: A systematic literature search of PubMed was performed to identify studies assessing lung-imaging features of COVID-19 pediatric patients (0–18 years). A single-arm meta-analysis was conducted to obtain the pooled prevalence and 95% confidence interval (95% CI).

ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet

CT CHEST FOR COVID IN CHILDREN – DOES IT GIVE US ALL THE ANSWERS?

Results: A total of 29 articles (n = 1026 children) based on chest computerized tomography (CT) images were included. The main results of this comprehensive analysis are as follows:

(1) Over a third of pediatric patients with COVID-19 (35.7%, 95% CI: 27.5%–44%) had normal chest CT scans and only 27.7% (95% CI: 19.9%–35.6%) had bilateral lesions.
(2)The most typical pediatric chest CT findings of COVID-19 were ground-glass opacities (GGO) (37.2%, 95% CI: 29.3%–45%) and the presence of consolidations or pneumonic infiltrates (22.3%, 95% CI: 17.8%–26.9%).
(3)The lung Imaging findings in children with COVID-19 were overall less frequent and less severe than in adult patients.
(4)Typical lung imaging features of viral respiratory infections in the pediatric population such as increased perihilar markings and hyperinflation were not reported in children with COVID-19.

Conclusions: Chest CT manifestations in children with COVID-19 could potentially be used for early identification and prompt intervention in some of the COVID patients in the pediatric population.

Key messages: Clinical Markers along with judicious use and correct interpretation of CT chest are needed for diagnosis and management of COVID in children

EXPERT COMMENT

"Children with COVID have less frequent and less severe lung patterns on CT Chest hence -CT Chest should not be used as sole criterion to diagnosing and managing children with SARS-CoV-2 infection."

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Reference

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