

Point Covid 19 chez l'enfant

Paris, le 18 mars 2020,

Michel Dupuis, Ines Mannes, Van Huyhn, Hubert Ducou Le Pointe et Catherine Adamsbaum pour la Société Francophone d'Imagerie Pédiatrique et Périnatale

La littérature chinoise indique que les enfants COVID+ sont beaucoup moins malades que les adultes, en particulier sur le plan respiratoire.

Il semble donc raisonnable de conserver les habitudes radiopédiatriques :

- limiter les indications de radiographies de thorax aux détresses respiratoires importantes et/ou clinique évocatrice de foyer de condensation
- discuter le scanner uniquement dans les cas difficiles/atypiques, contextes particuliers (immunodépression) et après discussion multidisciplinaire. Les anomalies retrouvées en cas de Covid 19 sont similaires mais moins sévères que celles de l'adulte, et probablement moins spécifiques (co-infections fréquentes).

Pour mémoire, il n'y a pas à ce jour de preuve formelle de contamination transplacentaire bien que des cas néonataux aient été décrits.

Pediatric Radiology

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ORIGINAL ARTICLE



Chest computed tomography in children with COVID-19 respiratory infection

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Abstract

Background Infection with COVID-19 is currently rare in children.

Objective To describe chest CT findings in children with COVID-19.

Materials and methods We studied children at a large tertiary-care hospital in China, during the period from 28 January 2019 to 8 February 2020, who had positive reverse transcriptase polymerase chain reaction (RT-PCR) for COVID-19. We recorded findings at any chest CT performed in the included children, along with core clinical observations.

Results We included five children from 10 months to 6 years of age (mean 3.4 years). All had had at least one CT scan after admission. Three of these five had CT abnormality on the first CT scan (at 2 days, 4 days and 9 days, respectively, after onset of symptoms) in the form of patchy ground-glass opacities; all normalised during treatment.

Conclusion Compared to reports in adults, we found similar but more modest lung abnormalities at CT in our small paediatric cohort.

Clinical and CT features in pediatric patients with COVID-19 infection: Different points from adults

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Abstract

Purpose: To discuss the different characteristics of clinical, laboratory, and chest computed tomography (CT) in pediatric patients from adults with 2019 novel coronavirus (COVID-19) infection.

Methods: The clinical, laboratory, and chest CT features of 20 pediatric inpatients with COVID-19 infection confirmed by pharyngeal swab COVID-19 nucleic acid test were retrospectively analyzed during 23 January and 8 February 2020. The clinical and laboratory information was obtained from inpatient records. All the patients were undergone chest CT in our hospital.

Results: Thirteen pediatric patients (13/20, 65%) had an identified history of close contact with COVID-19 diagnosed family members. Fever (12/20, 60%) and cough (13/20, 65%) were the most common symptoms. For laboratory findings, procalcitonin elevation (16/20, 80%) should be pay attention to, which is not common in adults. Coinfection (8/20, 40%) is common in pediatric patients. A total of 6 patients presented with unilateral pulmonary lesions (6/20, 30%), 10 with bilateral pulmonary lesions (10/20, 50%), and 4 cases showed no abnormality on chest CT (4/20, 20%). Consolidation with surrounding halo sign was observed in 10 patients (10/20, 50%), ground-glass opacities were observed in 12 patients (12/20, 60%), fine mesh shadow was observed in 4 patients (4/20, 20%), and tiny nodules were observed in 3 patients (3/20, 15%).

Conclusion: Procalcitonin elevation and consolidation with surrounding halo signs were common in pediatric patients which were different from adults. It is suggested that underlying coinfection may be more common in pediatrics, and the consolidation with surrounding halo sign which is considered as a typical sign in pediatric patients.

KEYWORDS

child, clinical features, COVID-19, infection, tomography

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Pre-publication Release

Epidemiological Characteristics of 2143 Pediatric Patients With 2019 Coronavirus Disease in China

Yuanyuan Dong, Xi Mo, Yabin Hu, Xin Qi, Fang Jiang, Zhongyi Jiang, Shilu Tong

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before it is published in its final form. The journal is providing an early version of this article to expedite access to these findings.

Abstract

OBJECTIVES: To identify the epidemiological characteristics and transmission patterns of pediatric patients with COVID-19 in China.

METHODS: Nationwide case series of 2143 pediatric patients with COVID-19 reported to the Chinese Center for Disease Control and Prevention from January 16 to February 8, 2020 were included. The epidemic curves were constructed by key dates of disease onset and case diagnosis. Onset-to-diagnosis curves were constructed by fitting a log-normal distribution to data on both onset and diagnosis dates.

RESULTS: There were 731 (34.1%) laboratory-confirmed cases and 1412 (65.9%) suspected cases. The median age of all patients was 7 years (interquartile range: 2-13), and 1213 cases (56.6%) were boys. Over 90% of all patients were asymptomatic, mild, or moderate cases. The median time from illness onset to diagnoses was 2 days (range: 0 to 42 days). There was a rapid increase of disease at the early stage of the epidemic and then there was a gradual and steady decrease. Disease rapidly spread from Hubei Province to surrounding provinces over time. More children were infected in Hubei province than any other province.

CONCLUSIONS: Children at all ages appeared susceptible to COVID-19, and there was no significant gender difference. Although clinical manifestations of children's COVID-19 cases were generally less severe than those of adults' patients, young children, particularly infants, were vulnerable to infection. The distribution of children's COVID-19 cases varied with time and space, and most of the cases concentrated in Hubei province and surrounding areas. Furthermore, this study provides strong evidence for human-to-human transmission.

REVIEW

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Coronavirus disease (COVID-19) and neonate: What neonatologist need to know

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Abstract

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) cause china epidemics with high morbidity and mortality, the infection has been transmitted to other countries. About three neonates and more than 230 children cases are reported. The disease condition of the main children was mild. There is currently no evidence that SARS-CoV-2 can be transmitted transplacentally from mother to the newborn. The treatment strategy for children with Coronavirus disease (COVID-19) is based on adult experience. Thus far, no deaths have been reported in the pediatric age group. This review describes the current understanding of COVID-19 infection in newborns and children.

An Analysis of 38 Pregnant Women with COVID-19, Their Newborn Infants, and Maternal-Fetal Transmission of SARS-CoV-2: Maternal Coronavirus Infections and Pregnancy Outcomes.

Schwartz DA.

Abstract

The emergence of a novel coronavirus, termed SARS-CoV-2, and the potentially life-threatening respiratory disease that it can produce, COVID-19, has rapidly spread across the globe creating a massive public health problem. Previous epidemics of many emerging viral infections have typically resulted in poor obstetrical outcomes including maternal morbidity and mortality, maternal-fetal transmission of the virus, and perinatal infections and death. This communication reviews the effects of two previous coronavirus infections - severe acute respiratory syndrome (SARS) caused by SARS-CoV and Middle East respiratory syndrome (MERS) caused by MERS-CoV - on pregnancy outcomes. In addition, it analyzes literature describing 38 pregnant women with COVID-19 and their newborns in China to assess the effects of SARS-CoV-2 on the mothers and infants including clinical, laboratory and virologic data, and the transmissibility of the virus from mother to fetus. This analysis reveals that unlike coronavirus infections of pregnant women caused by SARS and MERS, in these 38 pregnant women COVID-19 did not lead to maternal deaths. Importantly, and similar to pregnancies with SARS and MERS, there were no confirmed cases of intrauterine transmission of SARS-CoV-2 from mothers with COVID-19 to their fetuses. All neonatal specimens tested, including in some cases placentas, were negative by rt-PCR for SARS-CoV-2. At this point in the global pandemic of COVID-19 infection there is no evidence that SARS-CoV-2 undergoes intrauterine or transplacental transmission from infected pregnant women to their fetuses. Analysis of additional cases is necessary to determine if this remains true.



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Articles

Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records

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