Boletín de Alerta Bibliográfica

COVID-19

Unidad de Desarrollo de la Investigación, Tecnologías y Docencia
Documentos de Acceso Libre


Doi: 10.1097/INF.0000000000002718

Abstract

Since the emergence of a cluster of viral pneumonia cases in Wuhan, Hubei Province, People’s Republic of China, at the end of December 2019, caused by severe acute respiratory syndrome coronavirus (SARS-CoV-2), a novel coronavirus also known as "coronavirus disease 2019 (COVID-19)," as of 7 April 2020, more than 1,214,466 cases of COVID-19 have been reported in more than 200 countries and territories, resulting in more than 67,767 deaths. The disease was recognized by World Health Organization (WHO) as a pandemic on 11 March 2020. Published reports of adult patients with COVID-19 infection described symptoms including fever, cough, fatigue, sputum production, headache, dyspnoea and diarrhoea. Children usually showed milder respiratory symptoms or were asymptomatic, while loss of taste or sensation of smell were seldom reported. In this paper, we report three cases of pediatric patients with COVID-19 infection who presented with anosmia and/or ageusia.


Doi: 10.1001/jama.2020.10125

Data from China found severe complications in 8% of pregnant women with coronavirus disease 2019 (COVID-19).1 However, the high rate of cesarean deliveries (>90%) in Chinese reports is concerning,2 and whether mode of delivery is associated with maternal complications or neonatal transmission is unknown.3 We assessed births to women with COVID-19 by mode of delivery.

Letters

Doi: 10.1007/s00296-020-04613-5

The current COVID-19 pandemic created several and important issues for the management of patients with chronic diseases. Even if children are not the population most at risk of developing severe forms of COVID-19, rheumatic diseases and the related immunosuppressive therapies are known to predispose to several infections.


Doi: 10.1001/jama.2020.10369

Key Points

Question What are the clinical and laboratory characteristics of critically ill children who developed an inflammatory multisystem syndrome during the coronavirus disease 2019 pandemic?

Findings This case series included 58 hospitalized children, a subset of whom required intensive care, and met definitional criteria for pediatric inflammatory multisystem syndrome temporally associated with severe acute respiratory syndrome coronavirus 2 (PIMS-TS), including fever, inflammation, and organ dysfunction. Of these children, all had fever and nonspecific symptoms, such as abdominal pain (31 [53%]), rash (30 [52%]), and conjunctival injection (26 [45%]); 29 (50%) developed shock and required inotropic support or fluid resuscitation; 13 (22%) met diagnostic criteria for Kawasaki disease; and 8 (14%) had coronary artery dilatation or aneurysms. Some clinical and laboratory characteristics had important differences compared with Kawasaki disease, Kawasaki disease shock syndrome, and toxic shock syndrome.

Meaning These findings help characterize the clinical features of hospitalized, seriously ill children with PIMS-TS and provide insights into this apparently novel syndrome.

Doi: 10.1089/cap.2020.0081

Introduction

The 2019 coronavirus disease (COVID-19) has had a profound impact on the lives of most people. Naturally, most of us have been focused on the influence of the virus on ourselves, our families, and our extended families. However, it is important to be aware that COVID-19 may be having a major impact on the lives of many children and adolescents, particularly those with marked mental health and/or developmental issues.

In reflecting on this, we became concerned that COVID-19 will pose many difficulties for researchers who are investigating psychiatric and related variables in youth. This editorial is an effort to conceptualize the ongoing impact of COVID-19 on child and adolescent psychiatric research in the Western world. The goals of this editorial are (1) to identify factors capable of confounding current research; (2) to recognize sources of “noise” (experimental error) in COVID-19-era studies; (3) to classify variables that newly affect children, adolescents, and their families’ health before, during, and after COVID-19; and (4) to propose quantification of those variables. Our overall objective is to create a structure for understanding the influences that COVID-19 has had on child mental health research and to assist researchers as they attempt to deal with major life events that have accompanied COVID-19.


Letter


Doi: 10.1148/radiol.2020202288

Abstract

This case series examines cardiac MRI findings in four children and adolescents admitted to intensive care in April 2020 for multisystem inflammatory syndrome and Kawasaki disease-like features related to COVID-19. Acute myocarditis occurred less than 1 week after onset of fever and gastrointestinal symptoms. Physical examination showed rash and cheilitis/conjunctivitis. All patients recovered after intravenous immunoglobulin therapy. SARS-CoV-2 RT-PCR was negative on nasopharyngeal, stool, and respiratory samples and was positive on serology. Cardiac MRI showed diffuse myocardial edema on T2-STIR sequences and native-T1 mapping, with no evidence of late gadolinium enhancement suggestive of replacement fibrosis or focal necrosis. These findings favor post-infectious myocarditis in children and adolescents with COVID-19.


Letter

Doi: 10.1136/archdischild-2020-319654


Doi: 10.1111/bjh.16932

Abstract

I read with interest the recent article by Li et al detailing the risk for COVID-19 pneumonia and ABO blood group. After demonstration that group O healthcare workers were less likely to become infected with SARS-CoV, a research group proved that anti-A blood group natural isoagglutinins inhibit SARS-CoV entry into competent cells and could opsonize viral particles leading to complement-mediated neutralization. Since SARS-CoV2 uses the same receptor as SARS-CoV, anti-A isoagglutinins are expected to have similar effects against SARS-CoV2: accordingly, clusters of glycosylation sites exist proximal to the receptor-binding motif of the SARS-CoV and SARS-CoV2 S protein.

Letter

Doi: 10.1136/archdischild-2020-319701


Doi: 10.1097/aog.0000000000004010

Abstract

Objective: To ascertain the frequency of maternal and neonatal complications, as well as maternal disease severity, in pregnancies affected by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection.

Data sources: MEDLINE, Ovid, ClinicalTrials.gov, MedRxiv, and Scopus were searched from their inception until April 29, 2020. The analysis was limited to reports with at least 10 pregnant patients with SARS-CoV-2 infection that reported on maternal and neonatal outcomes.

Methods of study selection: Inclusion criteria were pregnant women with a confirmed diagnosis of SARS-CoV-2 infection. A systematic search of the selected databases was performed by implementing a strategy that included the MeSH terms, key words, and word variants for "coronavirus," "SARS-CoV-2," "COVID-19," and "pregnancy." The primary outcomes were maternal admission to the intensive care unit (ICU), critical disease, and death. Secondary outcomes included rate of preterm birth, cesarean delivery, vertical transmission, and neonatal death. Categorical variables were expressed as percentages with number of cases and 95% CIs.

Tabulation, integration, and results: Of the 99 articles identified, 13 included 538 pregnancies complicated by SARS-CoV-2 infection, with reported outcomes on 435 (80.9%) deliveries. Maternal ICU admission occurred in 3.0% of cases (8/263, 95% CI 1.6-5.9) and maternal critical disease in 1.4% (3/209, 95% CI 0.5-4.1). No maternal deaths were reported (0/348, 95% CI 0.0-1.1). The preterm birth rate was 20.1% (57/284, 95% CI 15.8-25.1), the cesarean delivery rate was 84.7% (332/392, 95% CI 80.8-87.9), the vertical transmission rate was 0.0% (0/310, 95% CI 0.0-1.2), and the neonatal death rate was 0.3% (1/313, 95% CI 0.1-1.8).

Conclusion: With data from early in the pandemic, it is reassuring that there are low rates of maternal and neonatal mortality and vertical transmission with SARS-CoV-2. The preterm birth rate of 20% and the cesarean delivery rate exceeding 80% seems related to geographic practice patterns.
Abstract

Introduction: Reports from China relating to Coronavirus disease 2019 (COVID-19) in children indicate a milder disease course compared to adults. Whilst a few pediatric COVID-19 reports from other parts of the world exist, there are none from the UK. We describe the clinical characteristics of children with COVID-19 admitted to a specialist children’s hospital in UK.

Methods: Retrospective case-series of inpatients with a positive polymerase chain reaction test for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), during a six-week period from 14th March to 24th April 2020.

Results: 45 children tested positive for SARS-CoV-2 during the study period. Median (IQR) age was 3.5 (0.7-12) years and 31 (69%) were male. Children with co-morbidities constituted 64% (29/45) of the study population, including 44% (20/45) who were considered ‘extremely vulnerable’. Fever (67%) and cough (55%) were the commonest symptoms. High C-reactive protein (>10 mg/L) was observed in 68% (19/28). Lymphopenia (<1.2 x109 /L) was observed in 23% (9/40) of children, but it was related to co-existing medical conditions in 6 children. Nine children required supplemental oxygen; two of whom received high-flow nasal cannula oxygen; one needed non-invasive ventilation and one child required invasive mechanical ventilation. Median length of stay of children with an admission outcome (n=42, 93%) was 3 (2-7) days. There were no COVID-19 related deaths.

Conclusions: COVID-19 had a relatively mild course of illness in majority of the hospitalized children that included a sub-group of vulnerable children with significant co-morbidities. Confirmation of this in larger nationwide studies of children is required.

Doi: 10.1002/ijgo.13166

Abstract

Background: Few case reports and clinical series exist on pregnant women infected with SARS-CoV-2 who delivered.

Objective: To review the available information on mode of delivery, vertical/peripartum transmission, and neonatal outcome in pregnant women infected with SARS-CoV-2.

Search strategy: Combination of the following key words: COVID-19, SARS-CoV-2, and pregnancy in Embase and PubMed databases.

Selection criteria: Papers reporting cases of women infected with SARS-CoV-2 who delivered.

Data collection and analysis: The following was extracted: author; country; number of women; study design; gestational age at delivery; selected clinical maternal data; mode of delivery; selected neonatal outcomes.

Main results: In the 13 studies included, vaginal delivery was reported in 6 cases (9.4%; 95% CI, 3.5-19.3). Indication for cesarean delivery was worsening of maternal conditions in 31 cases (48.4%; 95% CI, 35.8-61.3). Two newborns testing positive for SARS-CoV-2 by real-time RT-PCR assay were reported. In three neonates, SARS-CoV-2 IgG and IgM levels were elevated but the RT-PCR test was negative.

Conclusions: The rate of vertical or peripartum transmission of SARS-CoV-2 is low, if any, for cesarean delivery; no data are available for vaginal delivery. Low frequency of spontaneous preterm birth and general favorable immediate neonatal outcome are reassuring.


Doi: 10.1111/pai.13302

Abstract

The coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) appears milder in children but little is known about neonates and about the chains of infections after delivery.1-3 When in early March 2020 a midwife in our large maternity and perinatal center returned from vacation in Ischgl, Austria, she triggered a COVID-19 outbreak affecting 36 midwives, nurses and doctors. We reported previously on the successful containment of this outbreak and characterized the clinical symptoms and immunoglobulin development in staff members exposed to SARS-CoV-2.

Doi: 10.1212/wnl.0000000000010010

Abstract

Objective: To assess the rapid implementation of child neurology telehealth outpatient care with the onset of the COVID-19 pandemic in March 2020.

Methods: This was a cohort study with retrospective comparison of 14,780 in-person encounters and 2,589 telehealth encounters including 2,093 audio-video telemedicine and 496 scheduled telephone encounters between 10/1/19 and 4/24/2020. We compared in-person and telehealth encounters for patient demographics and diagnoses. For audio-video telemedicine encounters, we analyzed questionnaire responses addressing provider experience, follow-up plans, technical quality, need for in-person assessment, and parent/caregiver satisfaction. We performed manual reviews of encounters flagged as concerning by providers.

Results: There were no differences in patient age and major ICD10 codes before and after transition. Clinicians considered telemedicine satisfactory in 93% (1200/1286) of encounters and suggested telemedicine as a component for follow-up care in 89% (1144/1286) of encounters. Technical challenges were reported in 40% (519/1314) of encounters. In-person assessment was considered warranted following 5% (65/1285) of encounters. Patients/caregivers indicated interest in telemedicine for future care in 86% (187/217) of encounters. Participation in telemedicine encounters compared to telephone encounters was less frequent amongst patients in racial or ethnic minority groups.

Conclusions: We effectively converted most of our outpatient care to telehealth encounters, including mostly audio-video telemedicine encounters. Providers rated the vast majority of telemedicine encounters to be satisfactory, and only a small proportion of encounters required short-term in-person follow-up. These findings suggest telemedicine is feasible and effective for a large proportion of child neurology care. Additional strategies are needed to ensure equitable telemedicine utilization.


Viewpoint

Doi: 10.1136/archdischild-2020-319114

Doi: 10.1016/j.jaapos.2020.05.002

Abstract


Methods: A total of 27 pediatric patients with confirmed COVID-19 infection hospitalized from March 16 to April 15, 2020, at the Bambino Gesù Children's Hospital were enrolled in the study. At admission, all patients showed ocular manifestations. Reverse transcriptase-polymerase chain reaction from nasopharyngeal and conjunctival swabs were performed every 2-3 days before discharge.

Results: Of the 27 patients, 4 (15%) were asymptomatic, 15 (56%) showed respiratory symptoms, and 8 (30%) had gastrointestinal symptoms. At admission, nasopharyngeal swabs were positive for COVID-19 in all patients; on the second swabs, 7 children (26%) tested negative, and 20 remained positive for COVID-19. Ocular manifestations consistent with mild viral conjunctivitis were observed in 4 patients (15%). At first conjunctival swab, 3 patients (11%), 1 symptomatic and 2 asymptomatic for ocular infection, had positive findings for COVID-19; 2 became negative on the second test and 1 on the third.

Conclusions: In our study cohort, ocular manifestations of COVID-19 seem to have had a milder clinical course in pediatric patients than in adults. Despite the low prevalence and rapid regression of viral presence in the conjunctiva, SARS-CoV-2 transmission through tears may be possible, even in patients without apparent ocular involvement.


Letter

Doi: 10.1016/j.jaad.2020.06.019

Doi: 10.1111/all.14452

Abstract

Background: The pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection has made widespread impact recently. We aim to investigate the clinical characteristics of COVID-19 children with different severities and allergic status.

Methods: Data extracted from the electronical medical records, including demographics, clinical manifestations, comorbidities, laboratory and immunological results and radiological images of 182 hospitalized COVID-19 children were summarized and analyzed.

Results: The median age was 6 years old, ranging from 3 days to 15 years, and there were more boys (male-female ratio about 2:1) within the studied 182 patients. Most of the children were infected by family members. Fever (43.4%) and dry cough (44.5%) were common symptoms, and gastrointestinal manifestations accounted for 11.0%, including diarrhea, abdominal discomfort and vomiting. 71.4% had abnormal chest computed tomography (CT) scan images, and typical signs of pneumonia were ground-glass opacity and local patchy shadowing on admission. Laboratory results were mostly within normal ranges, and only a small ratio of lymphopenia (3.9%) and eosinopenia (29.5%) were observed. The majority (97.8%) of infected children were not severe, and 24 (13.2%) of them had asymptomatic infections. Compared to children without pneumonia (manifested as asymptomatic and acute upper respiratory infection), children with pneumonia were associated with higher percentages of the comorbidity history, symptoms of fever and cough, and increased levels of serum procalcitonin, alkaline phosphatase and serum interleukins (IL)-2, IL-4, IL-6, IL-10 and TNF-α. There were no differences of treatments, duration of hospitalization, time from first positive to first negative nucleic acid testing and outcomes between children with mild pneumonia and without pneumonia. All the hospitalized COVID-19 children had recovered except one death due to intussusception and sepsis. In 43 allergic children with COVID-19, allergic rhinitis (83.7%) was the major disease, followed by drug allergy, atopic dermatitis, food allergy and asthma. Demographics and clinical features were not significantly different between allergic and non-allergic groups. Allergic patients showed less increase in acute phase reactants, procalcitonin, D-dimer and aspartate aminotransferase levels compared to all patients. Immunological profiles including circulating T, B and NK lymphocyte subsets, total immunoglobulin and complement levels and serum cytokines did not show any difference in allergic and pneumonia groups. Neither eosinophil counts nor serum total immunoglobulin E (IgE) levels showed a significant correlation with other immunological measures, such as other immunoglobulins, complements, lymphocyte subsets numbers and serum cytokine levels.

Conclusion: Pediatric COVID-19 patients tended to have a mild clinical course. Patients with pneumonia had higher proportion of fever and cough and increased inflammatory biomarkers than those without pneumonia. There was no difference between allergic and non-allergic COVID-19 children in disease incidence, clinical features, laboratory and immunological findings. Allergy was not a risk factor for developing and severity of SARS-CoV-2 infection and hardly influenced the disease course of COVID-19 in children.

Doi: 10.1542/peds.2020-1267

Introduction

The first human coronaviruses (CoV) OC43 and 229E were discovered in the 1960s, but NL63 and HKU1, were discovered in 2004 and 2005, respectively. These 4 endemic CoVs cause respiratory illness in hospitalized children1 as does the newest CoV, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which causes COVID-19.2-4 Despite many SARS-CoV2 publications, there remains limited information about viral coinfections and the importance of viral load to acute severity. Given the potential for useful insights into SARS-CoV-2 childhood infections, we analyzed data from 2 prospective, multicenter cohorts of children hospitalized with bronchiolitis in the pre-COVID-19 era to examine endemic CoV bronchiolitis, specifically viral co-infections and the association between viral load and acute severity.


Doi: 10.2196/20157

Abstract

Telebehavioral Health has been expanding for the past decade to improve access and address the critical shortage of psychiatric workforce. The sudden shift from traditional in-person visits to alternatives modalities has been forced as a result of coronavirus disease 2019 (COVID-19). There are key factors associated with successful transitional and large-scale implementation of telehealth with existing resources. We describe the experience of a large health system in utilizing telehealth technology, identify strategies and discuss considerations for long term sustainability after the pandemic.


Doi: 10.1111/apa.15407

Abstract

It has been unclear why the new severe acute respiratory syndrome coronavirus (sars-CoV-2) hits a small minority hard, while the vast majority of children appear to be protected and develop mild or no disease. The editorial by Brodin suggests some possible mechanisms why it is so. I would like to emphasize the significance of cross immunity due to previous exposure to seasonal coronavirus; it may be a plausible explanation for why children appear to be protected.

Doi: 10.1007/s12519-020-00376-y

The coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has become a global pandemic. Studies on epidemiological and clinical characteristics of patients with COVID-19 have indicated that children are susceptible to SARS-CoV-2 [1–3]. To date, the largest study in China reported that over 90% of 2143 children with COVID-19 were asymptomatic, or had mild or moderate illness, and that 5.8% presented critical illness [3]. Although the data of neonates are limited and only six neonates with COVID-19 have been reported thus far, several important points should be addressed from these neonatal cases...


Doi: 10.1002/ppul.24869

Abstract

Aim: To summarize what we know so far about coronavirus disease (COVID-19) in children.

Method: We searched PubMed, Scientific Electronic Library Online, and Latin American and Caribbean Center on Health Sciences Information from 1 January 2020 to 4 May 2020. We selected randomized trials, observational studies, case series or case reports, and research letters of children ages birth to 18 years with laboratory-confirmed COVID-19. We conducted random-effects meta-analyses to calculate the weighted mean prevalence and 95% confidence interval (CI) or the weighted average means and 95% CI.

Result: Forty-six articles reporting 551 cases of COVID-19 in children (aged 1 day-17.5 years) were included. Eighty-seven percent (95% CI: 77%-95%) of patients had household exposure to COVID-19. The most common symptoms and signs were fever (53%, 95% CI: 45%-61%), cough (39%, 95% CI: 30%-47%), and sore throat/pharyngeal erythema (14%, 95% CI: 4%-28%); however, 18% (95% CI: 11%-27%) of cases were asymptomatic. The most common radiographic and computed tomography (CT) findings were patchy consolidations (33%, 95% CI: 23%-43%) and ground glass opacities (28%, 95% CI: 18%-39%), but 36% (95% CI: 28%-45%) of patients had normal CT images. Antiviral agents were given to 74% of patients (95% CI: 52%-92%). Six patients, all with major underlying medical conditions, needed invasive mechanical ventilation, and one of them died.

Conclusion: Previously healthy children with COVID-19 have mild symptoms. The diagnosis is generally suspected from history of household exposure to COVID-19 case. Children with COVID-19 and major underlying condition are more likely to have severe/critical disease and poor prognosis, even death.

Correspondence

Doi: 10.1089/sur.2020.200


Doi: 10.1089/lap.2020.0289

Abstract

Introduction: Thoracic surgery in children with coronavirus disease-19 (COVID-19) pulmonary disease is rare, as very limited virus-related lung lesions require intervention. However, some patients may suffer from other pulmonary abnormalities that can be worsened by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and they may consequently require lung surgery. COVID-19 affects the indications, surgical procedure, and postsurgical care of these patients.

Background: We present a case of a 14-year-old girl with COVID-19 pulmonary disease and persistent air leak due to right apical bullae that required resection. Clinical, surgical, and safety implications are discussed. The role of thoracic minimally invasive surgery under COVID-19 conditions is also analyzed.

Materials and Methods: The thoracoscopic procedure was scheduled earlier than normally expected. The surgery was performed in a COVID-19 reserved theatre with neutral pressure and only the necessary personnel was allowed inside. The use of the required personal protective equipment was supervised by an expert nurse before and after the intervention. Results: The surgeons used a three-port technique to resect the bullae with an endostapler and no mechanical pleural abrasion was added to the procedure. Electrocautery and CO2 insufflation were avoided, and a chest drain with a closed-circuit aspiration system was installed before removing the ports. The child was discharged home 3 days later after the removal of the chest drain.

Conclusions: COVID-19 has an impact on the standard indications, surgical strategies and postoperative care of some conditions requiring intervention. Extra safety measures are needed in the operating room to limit the chance of transmission. Minimally invasive surgery for thoracic surgery remains safe if the current safety guidelines are followed closely.

Doi: 10.1111/pde.14257

Abstract

Cutaneous manifestations are becoming increasingly well-documented in adults with COVID-19. There is now also a growing body of literature regarding skin involvement in children, with reports of papulovesicular, petechial and widespread macular and papular lesions, as well as chilblains (pernio). We describe the case of a thirteen-year-old boy with confirmed COVID-19 in the United Kingdom who presented with skin findings localized to the plantar aspects of the feet, axillae and lower limbs. The morphology was predominantly maculopapular but also included petechiae and annular lesions.


Doi: 10.3949/ccjm.87a.ccc022

Children are less likely to be infected with SARS-CoV-2 than adults and often have a milder course of COVID-19 disease and a lower case fatality rate. Children account for an estimated 1% to 5% of those diagnosed with COVID-19. Even so, preschool-aged children, infants, and children with underlying health conditions may still be at risk for severe disease and complications. Unique aspects of COVID-19 presentation and disease course in children and possible vertical transmission to newborns from COVID-19-positive mothers are discussed.


Letter

Doi: 10.1002/pbc.28482

Doi: [10.1037/tra0000861](https://doi.org/10.1037/tra0000861)

**Abstract**

As a result of the COVID-19 pandemic, many school districts have closed for the remainder of the academic year. These closures are unfortunate because, for many students, schools are their only source of trauma-informed care and supports. When schools reopen, they must develop a comprehensive plan to address the potential mental health needs of their students. (PsycInfo Database Record (c) 2020 APA, all rights reserved).


Doi: [10.1136/annrheumdis-2020-217960](https://doi.org/10.1136/annrheumdis-2020-217960)

**Abstract**

**Background:** Current data suggest that COVID-19 is less frequent in children, with a milder course. However, over the past weeks, an increase in the number of children presenting to hospitals in the greater Paris region with a phenotype resembling Kawasaki disease (KD) has led to an alert by the French national health authorities.

**Methods:** Multicentre compilation of patients with KD in Paris region since April 2020, associated with the detection of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) ('Kawa-COVID-19'). A historical cohort of ‘classical’ KD served as a comparator.

**Results:** Sixteen patients were included (sex ratio=1, median age 10 years IQR (4.7 to 12.5)). SARS-CoV-2 was detected in 11 cases (69%), while a further five cases had documented recent contact with a quantitative PCR-positive individual (31%). Cardiac involvement included myocarditis in 44% (n=7). Factors prognostic for the development of severe disease (ie, requiring intensive care, n=7) were age over 5 years and ferritinaemia >1400 µg/L. Only five patients (31%) were successfully treated with a single intravenous immunoglobulin (IVIg) infusion, while 10 patients (62%) required a second line of treatment. The Kawa-COVID-19 cohort differed from a comparator group of ‘classical’ KD by older age at onset 10 vs 2 years (p<0.0001), lower platelet count (188 vs 383 G/L (p<0.0001)), a higher rate of myocarditis 7/16 vs 3/220 (p=0.0001) and resistance to first IVIg treatment 10/16 vs 45/220 (p=0.004).

**Conclusion:** Kawa-COVID-19 likely represents a new systemic inflammatory syndrome temporally associated with SARS-CoV-2 infection in children. Further prospective international studies are necessary to confirm these findings and better understand the pathophysiology of Kawa-COVID-19. Trial registration number NCT02377245.

Letter

Doi: 10.1136/bmj.m2299


Doi: 10.2217/fmb-2020-0063

Abstract

A new coronavirus, severe acute respiratory syndrome coronavirus 2, was first discovered in Wuhan, China, in December 2019. As of April 7, 2020, the new coronavirus has spread quickly to 184 countries and aroused the attention of the entire world. No targeted drugs have yet been available for intervention and treatment of this virus. The sharing of academic information is crucial to risk assessment and control activities in outbreak countries. In this review, we summarize the epidemiological, genetic and clinical characteristics of the virus as well as laboratory testing and treatments to understand the nature of the virus. We hope this review will be helpful to prevent viral infections in outbreak countries and regions.


Doi: 10.1080/08880018.2020.1767740

Abstract

Since the emergence of patients with COVID-19 in December 2019, the virus has rapidly spread worldwide. Children with malignant tumors are more prone to be infected and develop severe infections. Prevention and control of the pandemic and ensuring the progress of the cancer diagnosis and treatment is a significant problem in the current scenario. This article proposes a scientific management system for patients with solid tumors to guarantee emergency surgery, rationally arrange limited-term surgery, appropriately defer elective surgery, and guarantee regular chemotherapy, while protecting children from SARS-CoV-2 infection and ensuring the continuity of comprehensive diagnosis and treatment.

Letter

Doi: 10.1007/s00277-020-04115-1


Doi: 10.1002/pd.5765

Abstract

There remain unanswered questions concerning mother-to-child-transmission (MTCT) of SARS-CoV-2. Despite reports of neonatal COVID-19, SARS-CoV-2 has not been consistently isolated in perinatal samples thus, definitive proof of transplacental infection is still lacking. To address these questions, we assessed investigative tools used to confirm maternal-fetal infection and known protective mechanisms of the placental barrier that prevent transplacental pathogen migration. Forty studies of COVID-19 pregnancies reviewed suggest a lack of consensus on diagnostic strategy for congenital infection. While RT-PCR of neonatal swabs was universally performed, a wide range of clinical samples was screened including vaginal secretions (22.5%), amniotic fluid (35%), breast milk (22.5%) and umbilical cord blood. Neonatal COVID-19 was reported in eight studies, two of which were based on the detection of SARS-CoV-2 IgM in neonatal blood. Histological examination demonstrated sparse viral particles, vascular malperfusion and inflammation in the placenta from pregnant women with COVID-19. The paucity of placental co-expression of ACE-2 and TMPRSS2, two receptors involved in cytoplasmic entry of SARS-CoV-2, may explain its relative insensitivity to transplacental infection. Viral interactions may utilise membrane receptors other than ACE-2 thus, tissue susceptibility may be broader than currently known. Further spatial-temporal studies are needed to determine the true potential for transplacental migration. This article is protected by copyright. All rights reserved.

Doi: 10.1007/s00246-020-02391-2

Abstract

Children were relatively spared during COVID-19 pandemic. However, the recently reported hyperinflammatory syndrome with overlapping features of Kawasaki disease and toxic shock syndrome "Paediatric Inflammatory Multisystem Syndrome-temporally associated with SARS-CoV-2" (PIMS-TS) has caused concern. We describe cardiac findings and short-term outcomes in children with PIMS-TS at a tertiary children's hospital. Single-center observational study of children with PIMS-TS from 10th April to 9th May 2020. Data on ECG and echocardiogram were retrospectively analyzed along with demographics, clinical features and blood parameters. Fifteen children with median age of 8.8 (IQR 6.4-11.2) years were included, all were from African/Afro-Caribbean, South Asian, Mixed or other minority ethnic groups. All showed raised inflammatory/cardiac markers (CRP, ferritin, Troponin I, CK and pro-BNP). Transient valve regurgitation was present in 10 patients (67%). Left Ventricular ejection fraction was reduced in 12 (80%), fractional shortening in 8 (53%) with resolution in all but 2. Fourteen (93%) had coronary artery abnormalities, with normalization in 6. ECG abnormalities were present in 9 (60%) which normalized in 6 by discharge. Ten (67%) needed inotropes and/or vasopressors. None needed extracorporeal life support. Improvement in cardiac biochemical markers was closely followed by improvement in ECG/echocardiogram. All patients were discharged alive and twelve (80%) have been reviewed since. Our entire cohort with PIMS-TS had cardiac involvement and this degree of involvement is significantly more than other published series and emphasizes the need for specialist cardiac review. We believe that our multi-disciplinary team approach was crucial for the good short-term outcomes.


Letter

Doi: 10.1136/bmj.m2326

Doi: 10.1002/ppul.24900

Abstract

Background: We aimed to evaluate anxiety among children with cystic fibrosis (CF) and their mothers related to the COVID-19 pandemic.

Methods: A total of 45 patients with CF and their mothers were enrolled in the study together with 90 age-matched healthy children and their mothers as a control group. The State and Trait Anxiety Inventory (STAI) was administered by teleconference with children aged 13-18 years old and their mothers. The STAI for children was administered with children aged 9-12 years. Results were compared with age-matched healthy children and their mothers. The relationship between anxiety scores of children with CF and their mothers was evaluated by comparing with clinical data of children with CF. At the conclusion of the teleconference, mothers were asked whether their anxiety had changed as a result of the interview.

Results: It was found that healthy children aged 13-18 years had higher state anxiety scores than age-matched children with CF. Mothers of children with CF had higher trait anxiety scores, especially those of children aged 0-12 years, than mothers of healthy children (p<0.05). For mothers of children with CF, state anxiety scores were higher among those whose children had chronic Pseudomonas infection (p<0.05). Most mothers of children with CF stated that their anxiety decreased following the interview.

Conclusion: The COVID-19 pandemic may increase anxiety among mothers of children with CF as well those with healthy children. However, COVID-19 had no effect on the anxiety of children with CF. Informing parents of children with CF about COVID-19 by teleconference may decrease anxiety. This article is protected by copyright. All rights reserved.


Letter

Doi: 10.1093/eurheartj/ehaa515

Doi: 10.1111/1471-0528.16362

Abstract

Background: Early reports of COVID-19 in pregnancy described management by caesarean, strict isolation of the neonate and formula feeding, is this practise justified?

Objective: To estimate the risk of the neonate becoming infected with SARS-COV-2 by mode of delivery, type of infant feeding and mother-infant interaction

SEARCH STRATEGY: Two biomedical databases were searched between September 2019 - June 2020.

Selection criteria: Case reports or case series of pregnant women with confirmed COVID-19, where neonatal outcomes were reported.

Data collection and analysis: Data was extracted on mode of delivery, infant infection status, infant feeding and mother-infant interaction. For reported infant infection a critical analysis was performed to evaluate the likelihood of vertical transmission.

Main results: We included 49 studies which included 666 neonates and 655 women where information was provided on the mode of delivery and the infant’s infection status. 28/666 (4%) neonates had confirmed COVID-19 infection postnatally. Of the 291 women who delivered vaginally, 8/292 (2.7%) neonates were positive. Of the 364 women who had a Caesarean birth, 20/374 (5.3%) neonates were positive. Of the 28 neonates with confirmed COVID-19 infection, 7 were breast fed, 3 formula fed, 1 was given expressed breast milk and in 17 neonates the method of infant feeding was not reported.

Conclusions: Neonatal COVID-19 infection is uncommon, uncommonly symptomatic, and the rate of infection is no greater when the baby is born vaginally, breastfed or allowed contact with the mother.


Doi: 10.1111/apa.15409

Abstract

The outbreak of severe pneumonia due to the new SARS-CoV-2 has created a world emergency that is putting global public health institutions at high alert. Since the first official paper on January 20 up to now more than 10,000 publications have appeared on PubMed. Surprisingly, no single paper has been dealing with the potential impact of the COVID-19 on Down Syndrome (DS). As COVID-19 presents as an acute severe respiratory syndrome and DS is by far the most frequent chromosomal disease with the highest susceptibility to develop respiratory infections and complications (1), it seems timely to focus on this syndrome during the ongoing pandemic.


Abstract

Objective: Since its emergence in late 2019, severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2), the novel coronavirus that causes novel coronavirus disease 2019 (COVID-19), has spread globally. Within the United States, some of the most affected regions have been New York, and Northern New Jersey. Our objective is to describe the impact of COVID-19 in a large delivery service in Northern New Jersey, including its effects on labor and delivery (L&D), the newborn nursery, and the neonatal intensive care unit (NICU).

Materials and methods: Between April 21, 2020 and May 5, 2020, a total of 78 mothers (3.6% of deliveries) were identified by screening history or examination to either be COVID-19 positive or possible positives (persons under investigation). Of the mothers who were tested after admission to L&D, 28% tested positive for SARS-CoV-2.

Discussion: Isolation between mother and infant was recommended in 62 cases, either because the mother was positive for SARS-CoV-2 or because the test was still pending. Fifty-four families (87%) agreed to isolation and separation. The majority of infants, 51 (94%), were initially isolated on the newborn nursery. Six needed NICU admission. No infants had clinical evidence of symptomatic COVID-19 infection. Fourteen infants whose mothers were positive for SARS-CoV-2, and who had been separated from the mother at birth were tested for SARS-CoV-2 postnatafly. All were negative.

Results: COVID-19 posed a significant burden to mothers, infants, and staff over the 5-week study period. The yield from screening mothers for COVID-19 on L&D was high. Most families accepted the need for postnatal isolation and separation of mother and newborn.

Conclusion: Our study suggests that the transmission of SARS-CoV-2 from mother to her fetus/newborn seems to be uncommon if appropriate separation measures are performed at birth.


Doi: 10.1111/pde.14269

Abstract

In a previous report in Pediatric Dermatology, we described chilblains-like lesions in four pediatric patients. From April 18 to May 10, 2020, 45 children presented to our Pediatric Dermatology department with similar acral lesions. The clinical appearance ranged from red to violaceous macules and dusky, purpuric plaques on the heels, soles and lateral margin of the feet, often accompanied by painful edema, consistent with chilblains.

Doi: 10.1111/jdv.16751

Abstract

Background: Over the last months, during the COVID-19 pandemic, a growing number of chilblain-like lesions was reported mainly in children, rarely in young adults. The relationship with SARS-CoV-2 infection was postulated, often without any laboratory, instrumental or clinical confirmation. The disclosure of information about chilblain-like lesions as a COVID-19 manifestation in social media has created concern in children’s families and pediatricians OBJECTIVES: to verify whether the chilblain-like lesions were caused by SARS-CoV-2 infection.

Methods: prospective study on a case series including children who presented with acral lesions at the Pediatric Dermatology Outpatient and Pediatric Emergency Unit of the University of Bologna, from April 1 to April 30, 2020. We reported demographical, laboratory and clinical features, history of close contact with COVID-19 patients, presence of similar skin lesions in other family members, precipitating and risk factors for chilblain onset.

Results: We evaluated 8 patients (5 females, 3 males) aged between 11 and 15 years. We excluded acute or previous SARS-CoV-2 infection with RT-PCR nasopharyngeal swab, serum antibody levels using chemiluminescent immunoassays. Other acute infections causing purpuric lesions at the extremities were negative in all patients. Skin lesion biopsy for histological and immunohistochemical evaluation was made in two cases and was consistent with chilblain. PCR-assay on skin lesion biopsy for Parvovirus B19, Mycoplasma pneumoniae and SARS-CoV-2 was performed in a patient and resulted negative. We identified common precipitating and risk factors: physical (cold and wet extremities, low BMI), cold and wet indoor and outdoor environment, behaviors, habits, lifestyle. We therefore reached a diagnosis of primary chilblains.

Conclusions: During the COVID-19 pandemic, a “cluster” of primary chilblains developed in predisposed subjects, mainly teenagers, due to to cold exposure in the lockdown period. Laboratory findings support our hypothesis, although it is also possible that an unknown infectious trigger may have contributed to the pathogenesis.


Doi: 10.1002/ijgo.13269

Abstract

COVID-19 was was declared a pandemic by the World Health Organization (WHO) during its 51st situation report on March 11, 2020.[1] One purpose of the report was to advise restructuring of healthcare services by limiting them to urgent or emergent cases in order to reduce pressure on the intensive care units (ICU) of hospitals treating COVID-19-positive patients.

Doi: [10.1002/eat.23326](https://doi.org/10.1002/eat.23326)

Abstract

The necessity to employ distance-based methods to deliver on-going eating disorder care due to the novel coronavirus (COVID-19) pandemic represents a dramatic and urgent shift in treatment delivery. Yet, TeleHealth treatments for eating disorders in youth have not been adequately researched or rigorously tested. Based on clinical experience within our clinic and research programs, we aim to highlight the common challenges clinicians may encounter in providing family-based treatment (FBT) via TeleHealth for children and adolescents with anorexia nervosa and bulimia nervosa. We also discuss possible solutions and offer practical considerations for providers delivering FBT in this format. Additional research in TeleHealth treatment for eating disorders in youth may lead to improved access, efficiency, and effectiveness of FBT delivered via videoconferencing.


Doi: [10.1007/s11604-020-01003-6](https://doi.org/10.1007/s11604-020-01003-6)

Abstract

Purpose: CT imaging has been a detrimental tool in the diagnosis of COVID-19, but it has not been studied thoroughly in pediatric patients and its role in diagnosing COVID-19.

Methods: 27 pediatric patients with COVID-19 pneumonia were included. CT examination and molecular assay tests were performed from all participants. A standard checklist was utilized to extract information, and two radiologists separately reviewed the CT images.

Results: The mean age of patients was 4.7 ± 4.16 (mean ± SD) years. Seventeen patients were female, and ten were male. The most common imaging finding was ground-glass opacities followed by consolidations. Seven patients had a single area of involvement, five patients had multiple areas of involvement, and four patients had diffuse involvement. The sensitivity of CT imaging in diagnosing infections was 66.67%. Also, some uncommon imaging findings were seen, such as a tree-in-bud and lung collapse.

Conclusion: CT imaging shows less involvement in pediatric compared to adult patients, due to pediatric patients having a milder form of the disease. CT imaging also has a lower sensitivity in detecting abnormal lungs compared to adult patients. The most common imaging findings are ground-glass opacities and consolidations, but other non-common imaging findings also exist.

Doi: 10.1111/jdv.16749

Abstract
Numerous pediatric cases of hyperinflammatory shock syndrome (demonstrating features reminiscent of Kawasaki vasculitis) were recently associated with infection by COVID-19. Clinical presentation includes unrelenting fever, variable rash, conjunctivitis and abdominal pain, progressing to hemodynamic shock with severe myocardial involvement. Recent report from Italy reported a 30 time increase in the rate of Kawasaki-like presentation during the COVID-19 pandemic among children, In many cases the nasopharyngeal swabs taken from these children were negative for COVID-19, and the association with COVID-19 infection is unclear.


Doi: 10.1111/apa.15411

Abstract
The Veneto region of northern Italy, which has about 5 million inhabitants, was the second area of the country, after Lombardy, to face the spread of COVID-19. After the first case on 21 February 2020, the number of cases increased exponentially, and lockdown was enforced. The regional healthcare system was forced to implement appropriate measures to protect patients and healthcare providers from the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection, which causes COVID-19, while ensuring continued care.


Doi: 10.1111/apa.15410

Abstract
We read the editorial by Dr. Brodin with great interest, which is discussing why COVID-19 appears to be so mild in children. The author discussed the potential theories that could explain why children have a lower incidence and milder clinical manifestations than adults. Additionally to the theories mentioned by the author; we would like to emphasize the differences between the child and adult respiratory systems that potentially protect children from severe COVID-19 disease.
Abstract

In December 2019, China reported the first cases of the coronavirus disease 2019 (COVID-19). This disease, caused by the severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), has developed into a pandemic. To date it has resulted in ~6.5 million confirmed cases and caused almost 400,000 related deaths worldwide. Unequivocally, the COVID-19 pandemic is the gravest health and socio-economic crisis of our time. In this context, numerous questions have emerged in demand of basic scientific information and evidence-based medical advice on SARS-CoV-2 and COVID-19. Although the majority of the patients show a very mild, self-limiting viral respiratory disease, many clinical manifestations in severe patients are unique to COVID-19, such as severe lymphopenia and eosinopenia, extensive pneumonia, a "cytokine storm" leading to acute respiratory distress syndrome, endothelitis, thrombo-embolic complications and multiorgan failure. The epidemiologic features of COVID-19 are distinctive and have changed throughout the pandemic. Vaccine and drug development studies and clinical trials are rapidly growing at an unprecedented speed. However, basic and clinical research on COVID-19-related topics should be based on more coordinated high-quality studies. This paper answers pressing questions, formulated by young clinicians and scientists, on SARS-CoV-2, COVID-19 and allergy, focusing on the following topics: virology, immunology, diagnosis, management of patients with allergic disease and asthma, treatment, clinical trials, drug discovery, vaccine development and epidemiology. Over 140 questions were answered by experts in the field providing a comprehensive and practical overview of COVID-19 and allergic disease.

Letter

Doi: 10.1002/pbc.28443


Letter

Doi: 10.1002/pbc.28466


Doi: 10.1002/ijgo.13273

Abstract

Cases of COVID-19 have been reported in neonates, and although these were either asymptomatic or non-severe, it is apparent that obstetricians are at increased risk of infection. As a result, safety procedures must be reinforced by ensuring the availability of personal protective equipment (PPE) and the application of infection control measures.


Letter

Doi: 10.1002/pbc.28467

Doi: 10.1037/tra0000863

Abstract

COVID-19 and related efforts to mitigate its spread have dramatically transformed the structure and predictability of modern childhood, resulting in growing concerns children may be particularly vulnerable to serious mental health consequences. Worldwide stay-at-home directives and emergency changes in healthcare policy and reimbursement have smoothed the trail for broad implementation of technology-based remote mental health services for children. Parent-Child Interaction Therapy (PCIT) is particularly well-positioned to address some of the most pressing child and parental needs that arise during stressful times, and telehealth formats of PCIT, such as Internet-delivered PCIT (iPCIT), have already been supported in controlled trials. This commentary explores PCIT implementation during the COVID-19 public health crisis and the challenges encountered in the move toward Internet-delivered services.


Doi: 10.1111/apa.15412

Abstract

The prevalence of coronavirus disease 2019 (COVID-19) is lower in children compared to adults. Children contribute to 1-5% of all COVID-19 cases (1) . A recent study from China reported that 171(12.3%) of 1391 children with suspected disease had confirmed COVID-19 infection (2) . As of May 15, 2020, there are 33,241 children with COVID-19 in the United States (3) . The most common symptoms in children with confirmed and suspected COVID-19 include fever and cough followed by diarrhea, and abdominal pain.


Correspondence

Doi: 10.1002/pon.5444

Doi: 10.1371/journal.pmed.1003130

Abstract

Background

As of April 18, 2020, over 2,000,000 patients had been diagnosed with coronavirus disease-2019 (COVID-19) globally, and more than 140,000 deaths had been reported. The clinical and epidemiological characteristics of adult patients have been documented recently. However, information on pediatric patients is limited. We describe the clinical and epidemiological characteristics of pediatric patients to provide valuable insight into the early diagnosis and assessment of COVID-19 in children.

Methods and findings

This retrospective, observational study involves a case series performed at 4 hospitals in West China. Thirty-four pediatric patients with COVID-19 were included from January 27 to February 23, 2020. The final follow-up visit was completed by March 16, 2020. Clinical and epidemiological characteristics were analyzed on the basis of demographic data, medical history, laboratory tests, radiological findings, and treatment information. Data analysis was performed for 34 pediatrics patients with COVID-19 aged from 1 to 144 months (median 33.00, interquartile range 10.00–94.25), among whom 14 males (41%) were included. All the patients in the current study presented mild (18%) or moderate (82%) forms of COVID-19. A total of 48% of patients were noted to be without a history of exposure to an identified source. Mixed infections of other respiratory pathogens were reported in 16 patients (47%). Comorbidities were reported in 6 patients (18%). The most common initial symptoms were fever (76%) and cough (62%). Expectoration (21%), vomiting (12%), and diarrhea (12%) were also reported in a considerable portion of cases. A substantial increase was detected in serum amyloid A for 17 patients (among 20 patients with available data; 85%) and in high-sensitivity C-reactive protein for 17 patients (among 29 patients with available data; 59%), whereas a decrease in prealbumin was noticed in 25 patients (among 32 patients with available data; 78%). In addition, significant increases in the levels of lactate dehydrogenase and α-hydroxybutyrate dehydrogenase were detected in 28 patients (among 34 patients with available data; 82%) and 25 patients (among 34 patients with available data; 74%), respectively. Patchy lesions in lobules were detected by chest computed tomographic scans in 28 patients (82%). Ground-glass opacities, which were a typical feature in adults, were rare in pediatric patients (3%). Rapid radiologic progression and a late-onset pattern of lesions in the lobules were also noticed. Lesions in lobules still existed in 24 (among 32 patients with lesions; 75%) patients that were discharged, although the main symptoms disappeared a few days after treatment. All patients were discharged, and the median duration of hospitalization was 10.00 (8.00–14.25) days.

The current study was limited by the small sample size and a lack of dynamic detection of inflammatory markers.

Conclusions

Our data systematically presented the clinical and epidemiological features, as well as the outcomes, of pediatric patients with COVID-19. Stratified analysis was performed between mild and moderate cases. The findings offer new insight into early identification and intervention in pediatric patients with COVID-19.


Abstract

The COVID-19 pandemic has surprised the entire population. The world has had to face an unprecedented pandemic. Only, Spanish flu had similar disastrous consequences. As a result, drastic measures (lockdown) have been adopted worldwide. Healthcare service has been overwhelmed by the extraordinary influx of patients, often requiring high intensity of care. Mortality has been associated with severe comorbidities, including chronic diseases. Patients with frailty were, therefore, the victim of the SARS-COV-2 infection. Allergy and asthma are the most prevalent chronic disorders in children and adolescents, so they need careful attention and, if necessary, an adaptation of their regular treatment plans. Fortunately, at present, young people are less suffering from COVID-19, both as incidence and severity. However, any age, including infancy, could be affected by the pandemic. Based on this background, the Italian Society of Pediatric Allergy and Immunology has felt it necessary to provide a Consensus Statement. This expert panel consensus document offers a rationale to help guide decision-making in the management of children and adolescents with allergic or immunologic diseases.


Doi: 10.1038/s41591-020-0962-9

Abstract

The COVID-19 pandemic has shown a markedly low proportion of cases among children 1-4. Age disparities in observed cases could be explained by children having lower susceptibility to infection, lower propensity to show clinical symptoms or both. We evaluate these possibilities by fitting an age-structured mathematical model to epidemic data from China, Italy, Japan, Singapore, Canada and South Korea. We estimate that susceptibility to infection in individuals under 20 years of age is approximately half that of adults aged over 20 years, and that clinical symptoms manifest in 21% (95% credible interval: 12-31%) of infections in 10- to 19-year-olds, rising to 69% (57-82%) of infections in people aged over 70 years. Accordingly, we find that interventions aimed at children might have a relatively small impact on reducing SARS-CoV-2 transmission, particularly if the transmissibility of subclinical infections is low. Our age-specific clinical fraction and susceptibility estimates have implications for the expected global burden of COVID-19, as a result of demographic differences across settings. In countries with younger population structures—such as many low-income countries—the expected per capita incidence of clinical cases would be lower than in countries with older population structures, although it is likely that comorbidities in low-income countries will also influence disease severity. Without effective control measures, regions with relatively older populations could see disproportionally more cases of COVID-19, particularly in the later stages of an unmitigated epidemic.

Doi: 10.1097/aog.0000000000004011

Abstract

Objective: To inform the current coronavirus disease 2019 (COVID-19) outbreak, we conducted a systematic literature review of case reports of Middle East respiratory syndrome coronavirus (MERS-CoV), severe acute respiratory syndrome coronavirus (SARS-CoV), and severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes COVID-19, during pregnancy and summarized clinical presentation, course of illness, and pregnancy and neonatal outcomes.

Data sources: We searched MEDLINE and ClinicalTrials.gov from inception to April 23, 2020.

Methods of study selection: We included articles reporting case-level data on MERS-CoV, SARS-CoV, and SARS-CoV-2 infection in pregnant women. Course of illness, indicators of severe illness, maternal health outcomes, and pregnancy outcomes were abstracted from included articles.

Tabulation, integration, and results: We identified 1,328 unique articles, and 1,253 articles were excluded by title and abstract review. We completed full-text review on 75, and 29 articles were excluded by full-text review. Among 46 publications reporting case-level data, eight described 12 cases of MERS-CoV infection, seven described 17 cases of SARS-CoV infection, and 31 described 98 cases of SARS-CoV-2 infection. Clinical presentation and course of illness ranged from asymptomatic to severe fatal disease, similar to the general population of patients. Severe morbidity and mortality among women with MERS-CoV, SARS-CoV, or SARS-CoV-2 infection in pregnancy and adverse pregnancy outcomes, including pregnancy loss, preterm delivery, and laboratory evidence of vertical transmission, were reported.

Conclusion: Understanding whether pregnant women may be at risk for adverse maternal and neonatal outcomes from severe coronavirus infections is imperative. Data from case reports of SARS-CoV, MERS-CoV, and SAR-CoV-2 infections during pregnancy are limited, but they may guide early public health actions and clinical decision-making for COVID-19 until more rigorous and systematically collected data are available. The capture of critical data is needed to better define how this infection affects pregnant women and neonates. This review was not registered with PROSPERO.


Letter

Doi: 10.1186/s13054-020-03074-3

Doi: 10.1002/ppul.24907

Abstract

Objective: Information regarding the association of immune-related factors with pneumonia in children with coronavirus disease 2019 (COVID-19) is scarce. This study aims to summarize the immune-related factors and their association with pneumonia in children with COVID-19.

Methods: Children with COVID-19 at Wuhan Children's Hospital from January 28 to March 12, 2020 were enrolled. Pneumonia due to causes other than COVID-19 were excluded. The clinical and laboratory information including routine blood tests, blood biochemistry, lymphocyte subsets, immunoglobulins, cytokines and inflammatory factors were analyzed retrospectively in 127 patients. Normal ranges and mean values of laboratory markers were applied as parameters for logistic regression analyses of their association with pneumonia.

Results: In non-intensive care unit patients, 48.8% and 22.4% of patients had increased levels of procalcitonin and hypersensitive C-reactive protein (hs-CRP) respectively. 12.6% and 18.1% of patients had decreased levels of immunoglobulin (Ig) A and interleukin (IL)-10 respectively. Approximately 65.8% of patients had pneumonia. These patients had decreased levels of globulin (odds ratio [OR] 3.13, 95% confidence interval [CI] 1.41-6.93, P=0.005), IgA (OR 4.00, 95% CI 1.13-14.18, P=0.032), and increased levels of hs-CRP (OR 3.14, 95% CI 1.34-7.36, P=0.008), procalcitonin (OR 3.83, 95% CI 2.03-7.24, P<0.001), IL-10 (OR 7.0, 95% CI 1.59-30.80, P=0.010), and CD4+CD25+ T lymphocyte < 5.0 % (OR 1.93, 95% CI 1.04-3.61, P=0.038).

Conclusion: Decreased IgA and CD4+CD25+ T lymphocyte percentage, and increased hs-CRP, procalcitonin and IL-10 were associated with pneumonia, suggesting that the immune-related factors may participate in the pathogenesis of pneumonia in children with COVID-19. This article is protected by copyright. All rights reserved.


Letter

Doi: 10.1111/apa.15413

Doi: 10.1055/s-0040-1713664

Abstract

We describe our experience with three pregnant women with novel coronavirus disease 2019 (COVID-19) who required mechanical ventilation. Recent data suggest a mortality of 88% in nonpregnant patients with COVID-19 who require intubation and mechanical ventilation. The three women we report were intubated and mechanically ventilated during pregnancy due to respiratory failure and pneumonia resulting from COVID-19. After several days of ventilation, all three were successfully weaned off mechanical ventilation and extubated, and are continuing their pregnancies with no demonstrable adverse effects. Our experience suggests that the mortality in pregnant women with COVID-19 requiring mechanical ventilation is not necessarily as high as in nonpregnant patients with COVID-19. KEY POINTS: · Coronavirus disease 2019 (COVID-19) is now a pandemic.. · COVID-19 may cause pneumonia or respiratory failure in pregnant women.. · Approximately 5% of women with COVID-19 will develop severe or critical disease.. · Mechanical ventilation in pregnant women may not necessarily result in high mortality rates..


Doi: 10.1111/apa.15413

Abstract

The global COVID-19 pandemic has been associated with high rates of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) transmission, morbidity and mortality in the general population. Evidence-based guidance on caring for babies born to mothers with COVID-19 is needed. There is currently insufficient evidence to suggest vertical transmission between mothers and their newborn infants. However, transmission can happen after birth from mothers or other carers. Based on the currently available data, prolonged skin-to-skin contact and early and exclusive breastfeeding remain the best strategies to reduce the risks of morbidity and mortality for both the mother with COVID-19 and her baby.

Doi: 10.1177/0194599820934376

Abstract

Objective: To evaluate the prevalence and characteristics of olfactory or gustatory dysfunction in coronavirus disease 2019 (COVID-19) patients.

Study design: Multicenter case series.

Setting: Five tertiary care hospitals (3 in China, 1 in France, 1 in Germany).

Subjects and methods: In total, 394 polymerase chain reaction (PCR)-confirmed COVID-19-positive patients were screened, and those with olfactory or gustatory dysfunction were included. Data including demographics, COVID-19 severity, patient outcome, and the incidence and degree of olfactory and/or gustatory dysfunction were collected and analyzed. The Questionnaire of Olfactory Disorders (QOD) and visual analog scale (VAS) were used to quantify olfactory and gustatory dysfunction, respectively. All subjects at 1 hospital (Shanghai) without subjective olfactory complaints underwent objective testing.

Results: Of 394 screened subjects, 161 (41%) reported olfactory and/or gustatory dysfunction and were included. Incidence of olfactory and/or gustatory disorders in Chinese (n = 239), German (n = 39), and French (n = 116) cohorts was 32%, 69%, and 49%, respectively. The median age of included subjects was 39 years, 92 of 161 (57%) were male, and 10 of 161 (6%) were children. Of included subjects, 10% had only olfactory or gustatory symptoms, and 19% had olfactory and/or gustatory complaints prior to any other COVID-19 symptom. Of subjects with objective olfactory testing, 10 of 90 demonstrated abnormal chemosensory function despite reporting normal subjective olfaction. Forty-three percent (44/102) of subjects with follow-up showed symptomatic improvement in olfaction or gustation.

Conclusions: Olfactory and/or gustatory disorders may represent early or isolated symptoms of severe acute respiratory syndrome coronavirus 2 infection. They may serve as a useful additional screening criterion, particularly for the identification of patients in the early stages of infection.


Letter

Doi: 10.1097/inf.0000000000002737

Doi: [10.1097/inf.0000000000002740](https://doi.org/10.1097/inf.0000000000002740)

**Abstract**

**Background:** To describe the characteristics of clinical manifestations of children with 2019 novel coronavirus (2019-nCoV) infection in Chongqing.

**Methods:** All 25 children with laboratory-confirmed 2019-nCoV infection by real-time reverse transcription-PCR (RNA-PCR) were admitted from the 4 designated treatment hospitals of 2019-nCoV in Chongqing from January 19 to March 12, 2020. Clinical data and epidemiologic history of these patients were retrospectively collected and analyzed.

**Results:** The diagnosis was confirmed through RNA-PCR testing. Among the 25 cases, 14 were males and 11 were females. The median age was 11.0 (6.3-14.5) years (range 0.6-17.0 years). All children were related to a family cluster outbreak, and 7 children (28%) with a travel or residence history in Hubei Province. These patients could be categorized into different clinical types, including 8 (32%) asymptomatic, 4 (16%) very mild cases and 13 (52%) common cases. No severe or critical cases were identified. The most common symptoms were cough (13 cases, 52%) and fever (6 cases, 24%). The duration time of clinical symptoms was 13.0 (8.0-25.0) days. In the 25 cases, on admission, 21 cases (84%) had normal white blood cell counts, while only 2 cases (8%) more than 10 × 10/L and 2 cases (8%) less than 4 × 10/L, respectively; 22 cases (88%) had normal CD4+ T lymphocyte counts, while in the remaining 3 cases (8%) this increased mildly; 23 cases had normal CD8+ T lymphocyte counts, while in the remaining 2 cases (8%) CD8+ T lymphocyte counts were mildly increased as well. All Lymphocyte counts were normal. There were no statistical differences of lab results between the groups of asymptomatic cases, mild cases and common cases. There were only 13 cases with abnormal CT imaging, most of which were located in the subpleural area of the bottom of the lung. All patients were treated with interferon, 6 cases combined with Ribavirin, and 12 cases combined with lopinavir or ritonavir. The days from onset to RNA turning negative was 15.20 ± 6.54 days. There was no significant difference of RNA turning negative between the groups of interferon, interferon plus ribavirin and interferon plus lopinavir or ritonavir treatment. All the cases recovered and were discharged from hospital.

**Conclusions:** The morbidity of 2019-nCoV infection in children is lower than in adults and the clinical manifestations and inflammatory biomarkers in children are nonspecific and milder than that in adults. RNA-PCR test is still the most reliable diagnostic method, especially for asymptomatic patients.


**Letter**

Doi: [10.1097/inf.0000000000002730](https://doi.org/10.1097/inf.0000000000002730)

Doi: 10.1097/inf.0000000000002721

Abstract

We report a case of childhood coronavirus disease 2019 infection with pleural effusion complicated by possible secondary Mycoplasma pneumoniae infection. Fever and pulmonary lesions on computed tomography were the early clinical manifestations, and the patient developed nonproductive cough later. The hydrothorax in this coronavirus disease 2019 case was exudative, showing predominantly mature lymphocytes.


Doi: 10.1097/inf.0000000000002704

Abstract

Starting from 2 pediatric cases of COVID-19, with confirmation at nasopharyngeal and rectal swabs, we considered the lesson learnt from previous Coronavirus epidemics and reviewed evidence on the current outbreak. Surveillance with rectal swabs might be extended to infants and children, for the implications for household contacts and isolation timing.


Doi: 10.1097/inf.0000000000002750

Abstract

Severe acute respiratory syndrome coronavirus 2 infection in children mainly shows a milder course. In complicated cases, it is unknown whether inflammation is predictive of disease severity, as in adults. Moreover, cardiac involvement is anecdotally described. We report the case of a 2-month-old infant with severe acute respiratory syndrome coronavirus 2 infection presenting with fever, tachycardia and elevated interleukin-6, who was diagnosed with myocarditis and treated with immunoglobulins.

Doi: 10.1097/inf.0000000000002724


Doi: 10.1097/inf.0000000000002729

Abstract

**Background:** Information regarding viral shedding in children with coronavirus disease 2019 (COVID-19) was limited. This study aims to investigate the clinical and laboratory characteristics associated with viral shedding in children with mild COVID-19.

**Methods:** The clinical and laboratory information of 110 children with COVID-19 at Wuhan Children's Hospital, Wuhan, China, from January 30 to March 10, 2020, were analyzed retrospectively.

**Results:** The median age was 6 years old. The median period of viral shedding of COVID-19 was 15 days (interquartile range [IQR], 11-20 days) as measured from illness onset to discharge. This period was shorter in asymptomatic patients (26.4%) compared with symptomatic patients (73.6%) (11 days vs. 17 days). Multivariable regression analysis showed increased odds of symptomatic infection was associated with age <6 years (odds ratio [OR] 8.94, 95% confidence interval [CI]: 2.55-31.35; P = 0.001), hypersensitive C-reactive protein >3.0 mg/L (OR 4.89; 95% CI: 1.10-21.75; P = 0.037) and presenting pneumonia in chest radiologic findings (OR 8.45; 95% CI: 2.69-26.61; P < 0.001). Kaplan-Meier analysis displayed symptomatic infection (P < 0.001), fever (P = 0.006), pneumonia (P = 0.003) and lymphocyte counts <2.0 × 10/L (P = 0.008) in children with COVID-19 were associated with prolonged duration of viral shedding in children with COVID-19.

**Conclusion:** Prolonged duration of viral shedding in children with COVID-19 was associated with symptomatic infection, fever, pneumonia and lymphocyte count less than 2.0 × 10/L. Monitoring of symptoms could help to know the viral shedding in children with COVID-19.

Doi: 10.1097/inf.0000000000002744

Abstract

We report the case of a pediatric life-threatening coronavirus disease 2019 who presented as myocarditis with heart failure. Clinicians should be aware of this severe presentation of the disease in children, possibly linked to an exaggerated inflammatory host immune response to severe acute respiratory syndrome coronavirus 2.


Doi: 10.1097/inf.0000000000002739

Abstract

Background: Novel coronavirus disease (COVID-19) is spreading globally. Little is known about the risk factors for the clinical outcomes of COVID-19 in children.

Methods: A retrospective case-control study was taken in children with severe acute respiratory syndrome coronavirus-2 infection in Wuhan Children's Hospital. Risk factors associated with the development of COVID-19 and progression were collected and analyzed.

Results: Eight of 260 children diagnosed with severe COVID-19 pneumonia were included in the study. Thirty-five children with COVID-19 infection matched for age, sex and date of admission, and who classified as non-severe type, were randomly selected from the hospital admissions. For cases with severe pneumonia caused by COVID-19, the most common symptoms were dyspnea (87.5%), fever (62.5%) and cough (62.5%). In laboratory, white blood cells count was significantly higher in severe children than non-severe children. Levels of inflammation bio-makers such as hsCRP, IL-6, IL-10 and D-dimer elevated in severe children compared with non-severe children on admission. The level of total bilirubin and uric acid clearly elevated in severe children compared with non-severe children on admission. All of severe children displayed the lesions on chest CT, more lung segments were involved in severe children than in non-severe children, which was only risk factor associated with severe COVID-19 pneumonia in multivariable analysis.

Conclusions: More than 3 lung segments involved were associated with greater risk of development of severe COVID-19 in children. Moreover, the possible risk of the elevation of IL-6, high total bilirubin and D-dimer with univariable analysis could identify patients to be severe earlier.

Doi: 10.1097/inf.0000000000002720

Abstract

Background: The outbreak of coronavirus disease 2019 (COVID-19) is becoming a global threat. However, our understanding of the clinical characteristics and treatment of critically ill pediatric patients and their ability of transmitting the coronavirus that causes COVID-19 still remains inadequate because only a handful pediatric cases of COVID-19 have been reported.

Methods: Epidemiology, clinical characteristics, treatment, laboratory data and follow-up information and the treatment of critically ill infant were recorded.

Results: The infant had life-threatening clinical features including high fever, septic shock, recurrent apnea, petechiae and acute kidney injury and persistent declined CD3+, CD4+ and CD8+ T cells. The duration of nasopharyngeal virus shedding lasted for 49 days even with the administration of lopinavir/ritonavir for 8 days. The CD3+, CD4+ and CD8+ T cells was partially recovered 68 days post onset of the disease. Accumulating of effector memory CD4+ T cells (CD4+TEM) was observed among T-cell compartment. The nucleic acid tests and serum antibody for the severe acute respiratory syndrome coronavirus 2 of the infant’s mother who kept intimate contact with the infant were negative despite no strict personal protection.

Conclusions: The persistent reduction of CD4+ and CD8+ T cells was the typical feature of critically ill infant with COVID-19. CD4+ and CD8+ T cells might play a key role in aggravating COVID-19 and predicts a more critical course in children. The prolonged nasopharyngeal virus shedding was related with the severity of respiratory injury. The transmission of SARS-CoV-2 from infant (even very critical cases) to adult might be unlikely.


Doi: 10.1097/inf.0000000000002738

Abstract

Between March 10, 2020 and April 17, 2020, of 8/70 (11.4%) SARS-CoV-2 positive infants that presented, 5/8 (63%) developed fever, 4/8 (50%) had lower respiratory tract involvement, 2/8 (25%) had neutropenia and thrombocytosis, and 4/8 infants (50%) were treated for suspected sepsis with broad-spectrum antibiotics. Only 1/8 (13%) required pediatric intensive care. All patients were eventually discharged home well.

Doi: 10.1097/inf.0000000000002742

Abstract

We report the first case of coronavirus disease 2019 (COVID-19) comorbid with leukemia in a patient hospitalized in Beijing, China. The patient showed a prolonged manifestation of symptoms and a protracted diagnosis period of COVID-19. It is necessary to extend isolation time, increase the number of nucleic acid detections and conduct early symptomatic treatment for children with both COVID-19 and additional health problems.
COVID-19

Dimensions

Dimensions se actualiza cada 24 horas, incluye conjuntos de datos y ensayos clínicos.

https://covid-19.dimensions.ai/
COVID-19 Research Pass (CRP)

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https://covid19.readcube.com/
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