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CARDIOLOGÍA
Publicaciones

⇒ **Tseng Y-S, Herron C, Garcia R, Cashen K. Sustained ventricular tachycardia in a paediatric patient with acute COVID-19 myocarditis. Cardiol Young. 2021 Mar 8;1–3.**

Doi: 10.1017/s1047951121000792

Abstract

Although rare, children with active coronavirus disease 2019 are at risk of developing malignant arrhythmia. Herein, we present the first paediatric case of refractory ventricular tachycardia from acute fulminant myocarditis secondary to acute COVID-19 infection. This 5-year-old boy required venoarterial extracorporeal membrane oxygenation support, but made a complete recovery without significant morbidity.

⇒ **Ferry T, Amiet V, Natterer J, Perez M-H, Pfister R, Colombier S, et al. Extracorporeal cardiopulmonary resuscitation for severe chloroquine intoxication in a child - a case report. Scand J Trauma Resusc Emerg Med. 2021 Mar 15;29(1):48.**

Doi: 10.1186/s13049-021-00850-0

Abstract

Background: Chloroquine use has increased worldwide recently in the setting of experimental treatment for the novel coronavirus disease (Covid-19). Nevertheless, in case of chloroquine intoxication, it can be life threatening, with cardiac arrest, due to its cardiac toxicity.

Case presentation: This case study reports on a 14-years-old girl who presented in cardiac arrest after an uncommon suicide attempt by ingesting 3 g of chloroquine. After 66 min of cardio-pulmonary resuscitation (CPR), extracorporeal cardiopulmonary resuscitation (ECPR) was initiated, allowing cardiac function to recover.

Conclusions: Chloroquine intoxication is a rare but serious condition due to its cardiac toxicity. Use of ECPR in this case of transient toxicity allowed a favorable evolution with little neurological impairment.

⇒ **Materna O, Koubský K, Pádr R, Janoušek J. Major left ventricular thrombi in an adolescent with COVID-19-associated inflammatory syndrome. Eur Heart J. 2021 Mar 18.**

Cardiovascular Flashlight

Doi: 10.1093/eurheartj/ehab165

⇒ **Mantell BS, Lytrivi ID, Lee TM. Spectrum of clinical presentation of COVID-19 in paediatric patients with cardiomyopathy and heart failure. Cardiol Young. 2021 Mar 9;1–2.**

Doi: 10.1017/s1047951121000536

Abstract

As the United States' original epicenter of the COVID-19 pandemic and one of the leading national paediatric heart failure/cardiomyopathy programs, we describe our experience with the spectrum of COVID-19 in the paediatric heart failure population.

⇒ **López-Bueno R, Calatayud J, Andersen LL, Casaña J, Ezzatvar Y, Casajús JA, et al. Cardiorespiratory fitness in adolescents before and after the COVID-19 confinement: a prospective cohort study. Eur J Pediatr. 2021 Mar 17.**

Doi: 10.1007/s00431-021-04029-8

Abstract

Long periods of free-movement restrictions may negatively affect cardiorespiratory fitness and health. The present study investigated changes after the COVID-19 confinement in maximal oxygen intake (VO2 max) levels in a sample of 89 Spanish school children aged 12 and 14 years at baseline (49.8% girls). The 20-m shuttle run test served to estimate VO2 max before and after the COVID-19 confinement. Paired t-tests estimated an overall difference of - 0.5 ml.kg-1.min-1 (SD 0.3) ($p = 0.12$), whereas the highest significant reductions were observed for girls aged 14 years (- 1.5 ml.kg-1.min-1 (SD 0.6) ($p < 0.05$)). Boys aged 14 years showed a slight increase (0.4 ml.kg-1.min-1 (SD 0.5) ($p = 0.44$)), whereas boys aged 12 years presented an important decrease (- 1.2 ml.kg-1.min-1 (SD 0.7) ($p = 0.14$)). Healthy Fitness Zone (HFZ) levels also experienced a decrease of - 3.4% as regards baseline levels over the examined period. All the examined subgroups showed lower levels in relation to a normal VO2 max rate development, although girls aged 14 and boys aged 12 years accounted for the highest part.Conclusion: The results indicate that COVID-19 confinement might delay the normal development of VO2 max in adolescents. Strategies to tackle this concerning decline are warranted. What is Known: • First study analyzing cardiorespiratory fitness levels in teenagers after COVID-19 confinement. What is New: • Important delay in maximal oxygen intake identified in a sample of Spanish teenagers. • These results should be considered to develop strategies of a more active lifestyle in teenagers during and after confinements.

CIRUGÍA
Publicaciones

⇒ **Soneru CN, Fernandez AM, Bradford V, Staffa SJ, Raman VT, Cravero J, et al. A Survey of the Global Impact of COVID-19 on the Practice of Pediatric Anesthesia: A Study from the Pediatric Anesthesia COVID-19 Collaborative Group. Paediatr Anaesth. 2021 Mar 9.**

Doi: 10.1111/pan.14174

Abstract

Background: Pediatric anesthesiology has been greatly impacted by COVID-19 in the delivery of care to patients and to the individual providers. With this study, we sought to survey pediatric centers and highlight the variations in care related to perioperative medicine during the COVID-19 pandemic, including the availability of protective equipment, the practice of pediatric anesthesia, and economic impact.

Aim: The aim of the survey was to determine how COVID-19 directly impacted pediatric anesthesia practices during the study period.

Methods: A survey concerning four major domains (testing, safety, clinical management/policy, economics) was developed. It was pilot tested for clarity and content by members of the Pediatric Anesthesia COVID-19 Collaborative. The survey was administered by email to all Pediatric Anesthesia COVID-19 Collaborative members on September 1, 2020. Respondents had six weeks to complete the survey and were instructed to answer the questions based on their institution's practice during September 1 - October 13, 2020.

Results: Sixty-three institutions (100% response rate) participated in the COVID-19 Pediatric Anesthesia Survey. Forty-one hospitals (65%) were from the United States, and 35% included other countries. N95 masks were available to anesthesia teams at 91% of institutions (n=57) (95% CI: 80%-96%). COVID-19 testing criteria of anesthesia staff and guidelines to return to work varied by institution. Structured simulation training aimed at improving COVID-19 safety and patient care occurred at 62% of institutions (n=39). Pediatric anesthesiologists were economically affected by a reduction in their employer benefits and restriction of travel due to employer imposed quarantine regulations.

Conclusion: Our data indicate that the COVID-19 pandemic has impacted the testing, safety, clinical management, and economics of pediatric anesthesia practice. Further investigation into the long-term consequences for the specialty are indicated.

⇒ **Utria AF, Javid PJ, Chen J, Rice-Townsend SE. Impact of COVID-19 on procedure volume at a tertiary pediatric hospital. Am J Surg. 2021 Mar 5.**

Doi: 10.1016/j.amjsurg.2021.03.003

Abstract

Introduction: In March 2020, the COVID-19 pandemic threatened to overwhelm entire healthcare systems. Here we characterize changes in surgical volumes at a regional tertiary pediatric hospital during the early phase of the COVID-19 pandemic.

Methods: Data on all procedures performed during the state-wide ban on elective procedures (March 19th, 2020 to May 18th, 2020) that required anesthesia involvement were collected retrospectively and compared to the same time period in 2019.

Results: A total of 5785 procedures were performed: 4005 (69%) in 2019, and 1780 (31%) in 2020, representing a 55% decrease in total cases. The percentage decrease was disproportionate across surgical services. Add-on cases increased from 23% to 39%, and outpatient procedures decreased from 60% to 27%.

Discussion: The ban on elective procedures during the COVID-19 pandemic resulted in a significant decrease in the volume of procedures performed at a tertiary pediatric hospital that differed among surgical services.

⇒ **Cronin J, Nelson J, Farquhar I, Braffett B, Bebu I, Pestieau S, et al. Anesthetic Outcomes in Pediatric Patients with COVID-19: A Matched Cohort Study. Paediatr Anaesth. 2021 Mar 13.**

Doi: 10.1111/pan.14177

Abstract

Severe acute respiratory syndrome coronavirus 2 (SARS-Co-V-2) is now widespread in most countries. As evidence regarding the clinical implications of SARS-Co-V-2 continues to evolve, such data is crucial to inform decision making in healthcare. Pediatric patients with viral infections are known to be vulnerable to perioperative complications, often respiratory in nature. 1 Although the SARS-Co-V-2 pandemic has been raging for over a year, limited information is available regarding the perioperative and anesthetic risks associated with concurrent SARS-CO-V-2 infection, particularly in children.

⇒ **Yaacobi Shilo D, Ad-El D, Kalish E, Yaacobi E, Olshinka A. Management Strategies for Pediatric Burns During the COVID-19 Pandemic. J Burn Care Res. 2021 Mar 4;42 (2):141–3.**

Doi: 10.1093/jbcr/iraa171

Abstract

The coronavirus disease 2019 (COVID-19) pandemic has been challenging global health, in many countries all non-urgent medical treatments were postponed in order to focus health systems, workforce and other resources on crucial treatments for COVID-19 patients. The pediatric cases are a minority of all COVID-19 patients and might present atypically. Due to an increase in pediatric burn cases we decided to establish an outpatient pre-hospital clinic as an intermediate "station", in order to triage pediatric burn patients into those who present at our hospital, and those treated via telemedicine. We divided our tactics into environmental and patient management both in hospitalized and outpatient patients, also medical staff management including preventive care, surgery, and bedside procedures. We found that patients and their escorts waited longer before arriving to the Emergency Room, apparently trying to avoid the hospital visit. A higher proportion of patients was hospitalized during the pandemic (4.5% in 2020, compared to 2.6% and 2.0% in 2019 and 2018, respectively). However, the length of stay was similar to routine periods, the surgery rate and length of follow up until healing was similar to that of the same month in previous years. We assume that these factors reflect treatment quality, which was not affected, due to the use of telemedicine, and that our treatment standards were maintained. It is important to have a good regulation system of prevention and care, including the tactics described below.

⇒ **Bence CM, Jarzembowski JA, Belter L, Berens RJ, Henrickson KJ, Hoffman GM, et al. COVID-19 pre-procedural testing strategy and early outcomes at a large tertiary care children's hospital. Pediatr Surg Int. 2021 Mar 14.**

Doi: 10.1007/s00383-021-04878-2

Abstract

Purpose: With the emergence of the coronavirus disease-2019 (COVID-19) pandemic, institutions were tasked with developing individualized pre-procedural testing strategies that allowed for re-initiation of elective procedures within national and state guidelines. This report describes the experience of a single US children's hospital (Children's Wisconsin, CW) in developing a universal pre-procedural COVID-19 testing protocol and reports early outcomes.

Methods: The CW pre-procedural COVID-19 response began with the creation of a multi-disciplinary task-force that sought to develop a strategy for universal pre-procedural COVID-19 testing which (1) maximized patient safety, (2) prevented in-hospital viral transmission, (3) conserved resources, and (4) allowed for resumption of procedural care within institutional capacity.

Results: Of 11,209 general anesthetics performed at CW from March 16, 2020 to October 31, 2020, 11,150 patients (99.5%) underwent pre-procedural COVID-19 testing. Overall, 1.4% of pre-procedural patients tested positive for COVID-19. By June 2020, CW was operating at near-normal procedural volume and there were no documented cases of in-hospital viral transmission. Only 0.5% of procedures were performed under augmented COVID-19 precautions (negative pressure environment and highest-level personal protective equipment).

Conclusion: CW successfully developed a multi-disciplinary pre-procedural COVID-19 testing protocol that enabled resumption of near-normal procedural volume within three months while limiting in-hospital viral transmission and resource use.

DERMATOLOGÍA
Publicaciones

⇒ **Neri I, Conti F, Virdi A, Guglielmo A, Leonardi L, Corsini I, et al. Chilblains in a child with confirmed SARS-CoV-2 infection: a red flag for late-onset skin manifestation in previously infected individuals. J Eur Acad Dermatol Venereol. 2021 Mar 2.**

Letter

Doi: 10.1111/jdv.17194

DIAGNÓSTICO Y TRATAMIENTO
Publicaciones

⇒ **Alcindor ML, Alcindor F, Richard KE, Ajay G, Denis AM, Dickson DM, et al. COVID-19 Management In Pediatrics. J Nurse Pract. 2021 Mar 9.**

Doi: 10.1016/j.nurpra.2021.02.010

Abstract

COVID-19 is a deadly global pandemic with scientific efforts improving our understanding of this novel coronavirus. No proven disease-specific therapies exist although various antiviral regimens offer some success. Many vaccines are in development and phase III clinical trial testing. COVID-19 thrives on medically fragile, elderly and socially disadvantaged, while children have been less affected. Children at risk are those with co-morbidities and neonates; the multisystem inflammatory syndrome is a severe version diagnosed in high-risk children. This article provides COVID-19 management for children, and implications for nursing and advanced practice providers. Suggested Reviewers: Response to Reviewers: As the review was a lot. Please see all of the revisions requested by the reviewers as an attachment in.

⇒ **Garcia-Prats AJ, Salazar-Austin N, Conway JH, Radtke K, LaCourse SM, Maleche-Obimbo E, et al. Coronavirus Disease 2019 (COVID-19) Pharmacologic Treatments for Children: Research Priorities and Approach to Pediatric Studies. Clin Infect Dis. 2021 Mar 15;72(6):1067–73.**

Doi: 10.1093/cid/ciaa885

Abstract

Clinical trials of pharmacologic treatments of coronavirus disease 2019 (COVID-19) are being rapidly designed and implemented in adults. Children are often not considered during development of novel treatments for infectious diseases until very late. Although children appear to have a lower risk compared with adults of severe COVID-19 disease, a substantial number of children globally will benefit from pharmacologic treatments. It will be reasonable to extrapolate efficacy of most treatments from adult trials to children. Pediatric trials should focus on characterizing a treatment's pharmacokinetics, optimal dose, and safety across the age spectrum. These trials should use an adaptive design to efficiently add or remove arms in what will be a rapidly evolving treatment landscape, and should involve a large number of sites across the globe in a collaborative effort to facilitate efficient implementation. All stakeholders must commit to equitable access to any effective, safe treatment for children everywhere.

⇒ **Lu J, Huang Y, Ye Q, Shang F, Ming M, Xu H, et al. Low-dose oral hydroxychloroquine led to impaired vision in a child with renal failure: Case report and literature review. Medicine (Baltimore). 2021 Mar 12;100(10):e24919.**

Doi: 10.1097/md.0000000000024919

Abstract

Introduction: Hydroxychloroquine (HCQ) has received much attention in the treatment of coronavirus disease 2019 recently. However, it can cause irreversible vision loss. Few cases have been reported in pediatric patient with HCQ-related adverse reactions. Appropriate administration and early disease recognition are important for reducing the adverse drug reactions of HCQ.

Patient concerns: We report a case of a 14-year-old Chinese girl who sought treatment for rapidly decreasing vision in the left eye over 3 days. The simulation results of the population pharmacokinetic model of HCQ revealed that the plasma concentration of HCQ abnormally increased before the visual acuity of the eye decreased.

Diagnosis: She was diagnosed as HCQ related drug adverse reaction.

Interventions: The daily dose of HCQ for this patient was adjusted from 100 mg/d to 50 mg/d.

Outcomes: Follow-up for 6 months showed no more vision loss recurrence. However, the existing decreased visual acuity of the eye did not recover either.

Conclusion: Although decreased visual acuity is an infrequent symptom, ophthalmologists should be aware of the possibility of HCQ concentration enrichment and consider minimizing HCQ use when a child with renal hypofunction seeks treatment for shortsightedness.

⇒ **Ong GY-K, Ng BHZ, Mok YH, Ong JS, Ngiam N, Tan J, et al. Interim Singapore guidelines for basic and advanced life support for paediatric patients with suspected or confirmed COVID-19. Singapore Med J. 2021 Mar 12.**

Doi: 10.11622/smedj.2021014

Abstract

The COVID-19 pandemic has resulted in significant challenges for the resuscitation of paediatric patients, especially for infants and children who are suspected or confirmed to be infected. Thus, the paediatric subcommittee of the Singapore Resuscitation and First Aid Council developed interim modifications to the current Singapore paediatric guidelines using extrapolated data from the available literature, local multidisciplinary expert consensus and institutional best practices. It is hoped that this it will provide a framework during the pandemic for improved outcomes in paediatric cardiac arrest patients in the local context, while taking into consideration the safety of all community first responders, medical frontline providers and healthcare workers.

⇒ Saraiva BM, Garcia AM, Silva TM, Gouveia C, Brito MJ. Clinical and Therapeutic Approach to Hospitalized COVID-19 Patients: A Pediatric Cohort in Portugal. Acta Med Port. 2021 Mar 12.

Doi: 10.20344/amp.15360

Abstract

Introduction: Coronavirus disease 2019, or COVID-19, in children is usually a mild disease, but severe illness has been reported. Currently, the therapy benefits of antiviral experimental drugs are still uncertain. The main aim of this study is to describe the experience of a level III hospital regarding therapeutic management of hospitalized children with COVID-19 and to characterize clinical features and evolution.

Material and methods: This is a descriptive study of patients with COVID-19 in a level III pediatric hospital in Portugal between March and June 2020. Experimental drugs were administered according to the best scientific evidence at the time as 'off-label use'.

Results: Among 200 children with SARS-CoV-2 infection, 37 were admitted due to COVID-19. Median age was one year (23 days - 18 years), 43% had comorbidities and 20/37 (54%) received antiviral therapy. Hydroxychloroquine was administered in 13 patients, in monotherapy or combined with lopinavir/ritonavir or azithromycin. Lopinavir/ritonavir was administered in eight patients and three children were treated with remdesivir. The patients who were treated had pneumonia (14), multisystem inflammatory syndrome in children (2), sepsis (2), myocarditis (1), acute respiratory distress syndrome (1), and mild illness with comorbidities (3). Other therapies included methylprednisolone and immunoglobulin (3), enoxaparin (2), antibiotics (16), oxygen (7), corticosteroids, and other inhaled therapy (16).

Discussion: Several treatment approaches have been proposed for severe COVID-19, even though none of them had been proven effective or approved for small children. Currently, remdesivir is approved for children aged above 12 years-old. Although 54% of our patients were treated with antivirals, it is important to understand that the favorable clinical evolution could be related with the natural course of the disease.

Conclusion: A significant proportion of our population presented severe and critical disease, was hospitalized and received treatment according to the most recent data, although most patients had mild disease. COVID-19 treatment in children is a clinical challenge and clinical trials are urgently needed.

⇒ **Garcia-Prats AJ, Salazar-Austin N, Conway JH, Radtke K, LaCourse SM, Maleche-Obimbo E, et al. Coronavirus Disease 2019 (COVID-19) Pharmacologic Treatments for Children: Research Priorities and Approach to Pediatric Studies. Clin Infect Dis. 2021 Mar 15;72(6):1067–73.**

Doi: 10.1093/cid/ciaa885

Abstract

Children less than 18 years of age account for an estimated 2%-5% of reported severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) cases globally. Lower prevalence of coronavirus disease 2019 (COVID -19) among children, in addition to higher numbers of mild and asymptomatic cases, continues to provide challenges in determining appropriate prevention and treatment courses. Here, we summarize the current evidence on the transmission, clinical presentation, complications and risk factors in regard to SARS-CoV-2 in children, and highlight crucial gaps in knowledge going forward. Based on current evidence, children are rarely the primary source of secondary transmission in the household or in child care and school settings and are more likely to contract the virus from an adult household member. Higher transmission rates are observed in older children (10-19 years old) compared with younger children (<10 years old). While increasing incidence of COVID-19 in neonates raises the suspicion of vertical transmission, it is unlikely that breast milk is a vehicle for transmission from mother to infant. The vast majority of clinical cases of COVID-19 in children are mild, but there are rare cases that have developed complications such as multisystem inflammatory syndrome in children, which often presents with severe cardiac symptoms requiring intensive care. Childhood obesity is associated with a higher risk of infection and a more severe clinical presentation. Although immediate mortality rates among children are low, long-term respiratory, and developmental implications of the disease remain unknown in this young and vulnerable population.

⇒ **DI Pierro F, Colombo M. The administration of S. salivarius K12 to children may reduce the rate of SARS-CoV-2 infection. Minerva Med. 2021 Mar 12.**

Doi: 10.23736/s0026-4806.21.07487-5

⇒ **Bach M, Lim PP, Azok J, Ruda Wessell K, Desai AP, Dirajlal-Fargo S. Anaphylaxis and Rhabdomyolysis: A Presentation of a Pediatric Patient With COVID-19. Clin Pediatr (Phila). 2021 Mar 5;9922821999470.**

Doi: 10.1177/0009922821999470

EPIDEMIOLOGÍA
Publicaciones

⇒ **Wale Tegegne A, Kassie Gidafie A, Girma Mamo D, Tilahun Wassie S, Abita Mengie Z. Immunization Status and Challenges During COVID-19 and Associated Factors Among Children Aged 10-23 Months in South Region, Ethiopia 2020. Pediatric Health Med Ther. 2021;12:101–9.**

Doi: 10.2147/phmt.s294739

Abstract

Background: The worldwide COVID-19 pandemic is overstressing health systems and Essential health services and vaccination services are disrupted. Immunization is a confirmed gizmo for governing and even eliminating communicable diseases.

Objective: This study aims to assess the challenge and status of immunization during COVID-19 and associated factors among children aged 10-23 months south Nation Nationality and People Region Ethiopia. Methods and Materials: community-based mixed quantitative and qualitative cross-sectional study was done in southwest Ethiopia. Data was collected using semi-structured questionnaires and in-depth interviews. After that, the data were edited, coded, and move in into Epi info version 7.2 for data management then transported to SPSS version 25 for analysis. The analyzed data were presented by tables, graphs, figures, and text form.

Results: According to this study, the prevalence of incomplete immunization was found to be 809 (62.2%) with (95% CI: 59.5, 64.8). In multivariable analysis waiting time at a health facility (AOR=0.04, 95% CI 0.0001,0.004), education (AOR=5.08,95% CI2.31,11.14), place of delivery (AOR=2.34,95% CI 4.96,6.089), fearing of COVID-19 (AOR=3.62,95% CI 1.72,7.64) and do not understand the separation care of COVID-19 and other health services (AOR=2.85,95% CI1.38,5.9) were significantly associated factors.

Conclusion: The prevalence of incomplete immunization among children aged 10-23 months was very high in this study as compared to the other studies done in a different pocket of Ethiopia. Consecutively, reducing waiting time at a health facility, avoiding unnecessary fear of COVID-19, and promoting immunization in a different area of southwest Ethiopia along with health extension workers are recommended.

⇒ **Peeler KR, Puccetti D, Lamb GS, Nguyen AA, Roberts J, Trissal M, et al. Cytokine Storm Unmasks Immunodeficiency in a Child With Severe COVID-19. Clin Pediatr (Phila). 2021 Mar 6;9922821999469.**

Case Report

Doi: 10.1177/0009922821999469

⇒ **Hyde Z. Difference in SARS-CoV-2 attack rate between children and adults may reflect bias. Clin Infect Dis. 2021 Feb 26.**

Doi: 10.1002/ppul.25330

Abstract

SARS-CoV-2 can be transmitted via respiratory droplets, aerosols, and to a lesser extent, fomites. Defining the factors driving infectivity and transmission is critical for infection control and containment of this pandemic. We outline the major methods of transmission of SARS-CoV-2, focusing on aerosol transmission. We review principles of aerosol science and discuss their implications for mitigating the spread of SARS-CoV-2 among children and adults.

⇒ **Milani GP, Bollati V, Ruggiero L, Bosis S, Pinzani RM, Lunghi G, et al. Bronchiolitis and SARS-CoV-2. Arch Dis Child. 2021 Mar 11.**

Doi: 10.1136/archdischild-2020-321108

Abstract

Background: It has been speculated that the SARS-CoV-2 was already widespread in western countries before February 2020.

Methods: We gauged this hypothesis by analysing the nasal swab of infants with either bronchiolitis or a non-infectious disease admitted to the Ospedale Maggiore, Milan (one of the first epicentres of SARS-CoV-2 outbreak in Europe) from November 2019.

Results: The SARS-CoV-2 RNA was never detected in 218 infants with bronchiolitis (95 females, median age 4.9 months) and 49 infants (22 females, median age 5.6 months) with a non-infectious disease between November 2019 and February 2020. On the contrary, two infants hospitalised for bronchiolitis between March and April 2020 tested positive for SARS-CoV-2.

Conclusions: This study does not support the hypothesis that SARS-CoV-2 was already circulating among infants before the official outbreak of SARS-CoV-2 infection. However, it shows for the first time that SARS-CoV-2 might cause bronchiolitis requiring hospitalisation .

⇒ **Pokorska-Śpiewak M, Talarek E, Popielska J, Nowicka K, Ołdakowska A, Zawadka K, et al. Comparison of clinical severity and epidemiological spectrum between coronavirus disease 2019 and influenza in children. Sci Rep. 2021 Mar 11;11(1):5760.**

Doi: 10.1038/s41598-021-85340-0

Abstract

Data on the novel coronavirus disease 2019 (COVID-19) in children are limited, and studies from Europe are scarce. We analyzed the clinical severity and epidemiologic aspects of COVID-19 in consecutive children aged 0-18 years, referred with a suspicion of COVID-19 between February 1, and April 15, 2020. RT-PCR on a nasopharyngeal swab was used to confirm COVID-19. 319 children met the criteria of a suspected case. COVID-19 was diagnosed in 15/319 (4.7%) patients (8 male; mean age 10.5 years). All of them had household contact with an infected relative. Five (33.3%) patients were asymptomatic. In 9/15 (60.0%) children, the course of the disease was mild, and in 1/15 (6.7%), it was moderate, with the following symptoms: fever (46.7%), cough (40%), diarrhea (20%), vomiting (13.3%), rhinitis (6.7%), and shortness of breath (6.7%). In the COVID-19-negative patients, other infections were confirmed, including influenza in 32/319 (10%). The clinical course of COVID-19 and influenza differed significantly based on the clinical presentation. In conclusion, the clinical course of COVID-19 in children is usually mild or asymptomatic. In children suspected of having COVID-19, other infections should not be overlooked. The main risk factor for COVID-19 in children is household contact with an infected relative.

⇒ **Cotugno N, Ruggiero A, Bonfante F, Petrara MR, Zicari S, Pascucci GR, et al. Virological and immunological features of SARS-CoV-2-infected children who develop neutralizing antibodies. Cell Rep. 2021 Mar 16;34(11):108852.**

Doi: 10.1016/j.celrep.2021.108852

Abstract

As the global COVID-19 pandemic progresses, it is paramount to gain knowledge on adaptive immunity to SARS-CoV-2 in children to define immune correlates of protection upon immunization or infection. We analyzed anti-SARS-CoV-2 antibodies and their neutralizing activity (PRNT) in 66 COVID-19-infected children at 7 (±2) days after symptom onset. Individuals with specific humoral responses presented faster virus clearance and lower viral load associated with a reduced in vitro infectivity. We demonstrated that the frequencies of SARS-CoV-2-specific CD4+CD40L+ T cells and Spike-specific B cells were associated with the anti -SARS-CoV-2 antibodies and the magnitude of neutralizing activity. The plasma proteome confirmed the association between cellular and humoral SARS-CoV-2 immunity, and PRNT+ patients show higher viral signal transduction molecules (SLAMF1, CD244, CLEC4G). This work sheds lights on cellular and humoral anti-SARS-CoV-2 responses in children, which may drive future vaccination trial endpoints and quarantine measures policies.

⇒ Milani GP, Marchisio P, Rocchi A, Bertolozzi G, Furlan L, La Vecchia A, et al. Frequency of asymptomatic carriers of SARS-CoV-2 among children and adults after school reopening. Ital J Pediatr. 2021 Mar 12;47(1):65.

Doi: 10.1186/s13052-021-01016-5

Abstract

Background: Children often develop an asymptomatic form of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), but it is debated if children are at higher risk than adults to be asymptomatic carriers of SARS-CoV-2, especially during the school reopening. The main aim of this study was to investigate the frequency of SARS-CoV-2 asymptomatic carriers in children and adults during the reopening of the schools in Milan, Italy.

Methods: We conducted a cross-sectional study at the pediatric and adult Emergency Department (ED) of the Ca' Granda Ospedale Maggiore Policlinico (Milan) between October 1 and 31, 2020, i.e. 3 weeks after the reopening of schools. Patients admitted to the ED short stay observation and without any sign or symptom consistent with a SARS-CoV-2 were eligible. These patients underwent a nasopharyngeal swab specimen for the detection of SARS-CoV-2. The odds ratio and its 95% confidence interval (CI) was calculated to assess the risk of asymptomatically carrying the SARS-CoV-2 infection in children and adults.

Results: A total of 69 (27 females, median age 8.7 years) children and 251 (107 females, median age 71 years) adults were enrolled. Pediatric and adult subjects tested positive for SARS-CoV-2 with a similar frequency (1/69 [1.4%] vs 4/251 [1.6%]). Children had an odds ratio to be a carrier of 0.91 (CI 0.02- 9.38) compared to adults.

Conclusions: The frequency of asymptomatic SARS-CoV-2 carriers was similar among children and adults. Considering the emerging diffusion of new SARS-CoV-2 variants, the asymptomatic spread of SARS-CoV-2 infection among children and adults should be monitored.

⇒ Bhopal SS, Bagaria J, Olabi B, Bhopal R. Children and young people remain at low risk of COVID-19 mortality. Lancet Child Adolesc Health. 2021 Mar 10.

Correspondence

Doi: 10.1016/s2352-4642(21)00066-3

⇒ **Soriano-Arandes A, Gatell A, Serrano P, Biosca M, Campillo F, Capdevila R, et al. Household SARS-CoV-2 transmission and children: a network prospective study. Clin Infect Dis. 2021 Mar 12.**

Doi: 10.1093/cid/ciab228

Abstract

Background: The role of children in household transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) remains uncertain. Here, we describe the epidemiological and clinical characteristics of children with COVID-19 in Catalonia (Spain) and investigate the dynamics of household transmission.

Methods: Prospective, observational, multicenter study performed during summer and school periods (1 July-31 October, 2020), in which epidemiological and clinical features, and viral transmission dynamics were analyzed in COVID-19 patients <16 years. A pediatric index case was established when a child was the first individual infected within a household. Secondary cases were defined when another household member tested positive for SARS-CoV-2 before the child. The secondary attack rate (SAR) was calculated, and logistic regression was used to assess associations between transmission risk factors and SARS-CoV-2 infections.

Results: The study included 1040 COVID-19 patients <16 years. Almost half (47.2%) were asymptomatic, 10.8% had comorbidities, and 2.6% required hospitalization. No deaths were reported. Viral transmission was common among household members (62.3%). More than 70% (756/1040) of pediatric cases were secondary to an adult, whereas 7.7% (80/1040) were index cases. The SAR was significantly lower in households with COVID-19 pediatric index cases during the school period relative to summer (p=0.02), and when compared to adults (p=0.006). No individual or environmental risk factors associated with the SAR were identified.

Conclusions: Children are unlikely to cause household COVID-19 clusters or be major drivers of the pandemic even if attending school. Interventions aimed at children are expected to have a small impact on reducing SARS-CoV-2 transmission.

⇒ **Lu L, Koh CT, Lim YH, Sng A, Poon KS, Tan SSY, et al. Role of asymptomatic children in community SARS-CoV-2 transmission. J Infect Dis. 2021 Mar 17.**

Doi: 10.1093/infdis/jiab138

⇒ Takashita E, Kawakami C, Momoki T, Saikusa M, Shimizu K, Ozawa H, et al. Increased risk of rhinovirus infection in children during the coronavirus disease-19 pandemic. Influenza Other Respir Viruses. 2021 Mar 14.

Doi: 10.1111/irv.12854

Introduction

Background: Coronavirus disease (COVID-19), which is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was first detected in Japan in January 2020 and has spread throughout the country. Previous studies have reported that viral interference among influenza virus, rhinovirus, and other respiratory viruses can affect viral infections at the host and population level.

Methods: To investigate the impact of COVID-19 on influenza and other respiratory virus infections, we analyzed clinical specimens collected from 2244 patients in Japan with respiratory diseases between January 2018 and September 2020.

Results: The frequency of influenza and other respiratory viruses (coxsackievirus A and B; echovirus; enterovirus; human coronavirus 229E, HKU1, NL63, and OC43; human metapneumovirus; human parainfluenza virus 1, 2, 3, and 4; human parechovirus; human respiratory syncytial virus; human adenovirus; human bocavirus; human parvovirus B19; herpes simplex virus type 1; and varicella-zoster virus) was appreciably reduced among all patients during the COVID-19 pandemic except for that of rhinovirus in children younger than 10 years, which was appreciably increased. COVID-19 has not spread among this age group, suggesting an increased risk of rhinovirus infection in children.

Conclusions: Rhinovirus infections should be continuously monitored to understand their increased risk during the COVID-19 pandemic and viral interference with SARS-CoV-2.

⇒ Alvares PA. SARS-CoV-2 and Respiratory Syncytial Virus Coinfection in Hospitalized Pediatric Patients. Pediatr Infect Dis J. 2021 Apr 1;40(4):e164–6.

Doi: 10.1097/inf.0000000000003057

Abstract

In this study, children under 24 months of age hospitalized with respiratory compromise due to COVID-19 were retrospectively analyzed according to the event of coinfection with respiratory syncytial virus. Of 32 patients, 18.7% had coinfection and these had a significantly longer length of stay. There were no differences regarding need for intensive care, mechanical ventilation or mortality rates.

⇒ **Li Y, Wang H, Wang F, Lu X, Du H, Xu J, et al. Co-infections of SARS-CoV-2 with multiple common respiratory pathogens in infected children: A retrospective study. Medicine (Baltimore). 2021 Mar 19;100(11):e24315.**

Doi: 10.1097/md.0000000000024315

Abstract

Since the outbreak of coronavirus disease 2019 (COVID-19) in Wuhan, considerable attention has been paid on its epidemiology and clinical characteristics in children patients. However, it is also crucial for clinicians to summarize and investigate the co-infection of SARS-CoV-2 in children.We retrospectively reviewed the clinical manifestations, laboratory findings, and imaging characteristics of COVID-19 patients in co-infection group (CI, n = 27) and single infection group (SI, n = 54). Samples were tested for multiple pathogens.A high incidence (27/81, 33%) of co-infection in children with COVID-19 was revealed. The most frequent co-infected pathogen was mycoplasma pneumoniae (MP, 20/81, 25%), followed by virus (6/81, 7%), and bacteria (4/81, 5%). No significant difference in clinical characteristics, laboratory examinations, or hospital stay was observed between the patients with co-infections and those with monomicrobial, only lower in white blood cell counts (CI: 5.54 ± 0.36 vs SI: 7.38 ± 0.37, P = .002), neutrophil counts (CI: 2.20 ± 0.20 vs SI: 2.92 ± 0.23, P = .024) and lymphocyte counts (CI: 2.72 ± 0.024 vs SI: 3.87 ± 0.28, P = .006). Compared with the patients with monomicrobial, chest imaging of those with co-infections showed consolidation in more cases (CI: 29.6% vs SI: 11.1%, P = .038) and duration of positive in nucleic acid was shorter (CI: 6.69 ± 0.82 vs SI: 9.69 ± 0.74, P = .015).Co-infection was relatively common in children with COVID-19, almost 1/3 had co-infection, most commonly caused by MP. Co-infection did not cause a significant exacerbation in clinical manifestations.

⇒ **Rytter MJH, Nygaard U, Mandic IN, Glenthøj JP, Schmidt LS, Cortes D, et al. Prevalence of SARS-CoV-2-Antibodies in Danish Children and Adults. Pediatr Infect Dis J. 2021 Apr 1;40(4):e157–9.**

Doi: 10.1097/inf.0000000000003048

Abstract

In Denmark, severe acute respiratory syndrome coronavirus 2 antibodies were assessed in a cross-sectional study among 1033 children visiting pediatric departments and 750 blood donors in June 2020, using a point-of-care test. Antibodies were detected in 17 children (1.6%) and 15 blood donors (2.0%) (P = 0.58). In conclusion, children and adults were infected to a similar low degree.

GASTROENTEROLOGÍA
Publicaciones

⇒ **Tam SS, Picoraro JA, Gupta SK, Oliva S, Furlano RI, Walsh CM, et al. Changes to Pediatric Gastroenterology Practice during the COVID-19 Pandemic and Lessons Learned: An International Survey of Division and Group Heads. Gastroenterology. 2021 Mar 3.**

Doi: 10.1053/j.gastro.2021.02.064

Introduction

The COVID-19 pandemic has caused unprecedented disruptions to medical services and presented numerous challenges for gastroenterology division and group leaders. They have had to respond and adapt rapidly as the pandemic evolves to implement changes to care delivery while maintaining clinical practice, patients' health, and the physical and mental health of staff. The scope of practice change across inpatient and outpatient services and its financial implications, as well as leaders' priorities during re-opening and lessons learned remain largely unexplored. To address this gap, we aimed to conduct a survey of pediatric gastroenterology division and group heads (DGHs) about their response to the pandemic to understand its impact on pediatric GI practice and inform future strategies during periods of resurgence. This is the first study to our knowledge to provide a comprehensive, international view of the pandemic from the perspective of physician leaders.

⇒ **Paz L, Eslava E, Ribes M, Mayer EF. Acute Pancreatitis in a Teenager With SARS-CoV-2 Infection. Pediatr Infect Dis J. 2021 Apr 1;40(4):e161–2.**

Doi: 10.1097/inf.0000000000003046

Abstract

The clinical manifestations of SARS-CoV-2 infection, the causative agent of COVID-19, mainly involve the respiratory system. However, there is increasing evidence that this virus can affect other organs causing a wide arrange of clinical symptoms. In this report, we present the case of 14-year-old boy with acute abdominal pain, with laboratory and radiologic findings consistent with acute pancreatitis, without any risk factors except for a SARS-CoV-2 infection.

HEMATOLOGÍA
Publicaciones

⇒ **Rao SPN, Minckas N, Medvedev MM, Gathara D, Y N P, Seifu Estifanos A, et al. Small and sick newborn care during the COVID-19 pandemic: global survey and thematic analysis of healthcare providers' voices and experiences. BMJ Glob Health. 2021 Mar;6(3).**

Doi: 10.1136/bmjgh-2020-004347

Abstract

Introduction: The COVID-19 pandemic is disrupting health systems globally. Maternity care disruptions have been surveyed, but not those related to vulnerable small newborns. We aimed to survey reported disruptions to small and sick newborn care worldwide and undertake thematic analysis of healthcare providers' experiences and proposed mitigation strategies.

Methods: Using a widely disseminated online survey in three languages, we reached out to neonatal healthcare providers. We collected data on COVID-19 preparedness, effects on health personnel and on newborn care services, including kangaroo mother care (KMC), as well as disruptors and solutions.

Results: We analysed 1120 responses from 62 countries, mainly low and middle-income countries (LMICs). Preparedness for COVID-19 was suboptimal in terms of guidelines and availability of personal protective equipment. One-third reported routine testing of all pregnant women, but 13% had no testing capacity at all. More than 85% of health personnel feared for their own health and 89% had increased stress. Newborn care practices were disrupted both due to reduced care-seeking and a compromised workforce. More than half reported that evidence-based interventions such as KMC were discontinued or discouraged. Separation of the mother-baby dyad was reported for both COVID-positive mothers (50%) and those with unknown status (16%). Follow-up care was disrupted primarily due to families' fear of visiting hospitals (~73%).

Conclusion: Newborn care providers are stressed and there is lack clarity and guidelines regarding care of small newborns during the pandemic. There is an urgent need to protect life-saving interventions, such as KMC, threatened by the pandemic, and to be ready to recover and build back better.

⇒ **Cuzzubbo D, Pegoraro F, Frenos S, Casini T, Galli L, Gambineri E, et al. Planned haematopoietic stem cell transplantation in a 17-month-old patient with high-risk acute myeloid leukaemia and persistent SARS-CoV-2 infection. Transfusion. 2021 Mar 8.**

Letter

Doi: 10.1111/trf.16361

⇒ **Eshagh Hossaini SK, Movahedi Z, Hormati A, Heydari H, Eshagh Hosseini SJ, Khodadust F, et al. COVID-19 in a 13-year-old patient with acute lymphoblastic leukemia. Clin Exp Pediatr. 2021 Mar 8.**

Clinical note

Doi: 10.3345/cep.2020.01711

⇒ **Zgutka K, Prasanth K, Pinero-Bernardo S, Lew LQ, Cervellione K, Rhythm R, et al. Infant outcomes and maternal COVID-19 status at delivery. J Perinat Med. 2021 Mar 15.**

Doi: 10.1515/jpm-2020-0481

Abstract

Objectives: To compare clinical characteristics and outcomes of infants born to COVID-19 to non COVID-19 mothers at delivery in a community hospital in Queens, New York.

Methods: Case-control study conducted March 15 to June 15, 2020. Cases were infants born to mothers with laboratory-confirmed COVID-19 infection at delivery. The infant of non COVID-19 mother born before and after each case were selected as controls.

Results: Of 695 deliveries, 62 (8.9%) infants were born to COVID-19 mothers; 124 controls were selected. Among cases, 18.3% were preterm compared to 8.1% in controls (p=0.04). In preterm cases, birth weight was not significantly different between groups. However, there was a significantly higher proportion of neonatal intensive care unit (NICU) admissions, need for respiratory support, suspected sepsis, hyperbilirubinemia, feeding intolerance and longer length of stay (LOS) in preterm cases. Among term cases, birth weight and adverse outcomes were not significantly different between cases and controls except for more feeding intolerance in cases. All infants born to COVID-19 mothers were COVID-19 negative at 24 and 48 h of life. No infants expired during birth hospitalization.

Conclusions: Significantly, more infants of COVID-19 mothers were premature compared to controls. Preterm cases were more likely to have adverse outcomes despite having similar birth weight and gestational age. These differences were not seen among full term infants. Health care providers should anticipate the need for NICU care when a COVID-19 mother presents in labor

NEONATOS / MADRE E HIJO
Publicaciones

⇒ **Rao SPN, Minckas N, Medvedev MM, Gathara D, Y N P, Seifu Estifanos A, et al. Small and sick newborn care during the COVID-19 pandemic: global survey and thematic analysis of healthcare providers' voices and experiences. BMJ Glob Health. 2021 Mar;6(3).**

Doi: 10.1136/bmjgh-2020-004347

Abstract

Introduction: The COVID-19 pandemic is disrupting health systems globally. Maternity care disruptions have been surveyed, but not those related to vulnerable small newborns. We aimed to survey reported disruptions to small and sick newborn care worldwide and undertake thematic analysis of healthcare providers' experiences and proposed mitigation strategies.

Methods: Using a widely disseminated online survey in three languages, we reached out to neonatal healthcare providers. We collected data on COVID-19 preparedness, effects on health personnel and on newborn care services, including kangaroo mother care (KMC), as well as disruptors and solutions.

Results: We analysed 1120 responses from 62 countries, mainly low and middle-income countries (LMICs). Preparedness for COVID-19 was suboptimal in terms of guidelines and availability of personal protective equipment. One-third reported routine testing of all pregnant women, but 13% had no testing capacity at all. More than 85% of health personnel feared for their own health and 89% had increased stress. Newborn care practices were disrupted both due to reduced care-seeking and a compromised workforce. More than half reported that evidence-based interventions such as KMC were discontinued or discouraged. Separation of the mother-baby dyad was reported for both COVID-positive mothers (50%) and those with unknown status (16%). Follow-up care was disrupted primarily due to families' fear of visiting hospitals (~73%).

Conclusion: Newborn care providers are stressed and there is lack clarity and guidelines regarding care of small newborns during the pandemic. There is an urgent need to protect life-saving interventions, such as KMC, threatened by the pandemic, and to be ready to recover and build back better.

⇒ **Kelly D, Dal N, Thakker P. I do not want my baby screened for COVID-19. Arch Dis Child. 2021 Mar 2.**

Letter

Doi: 10.1136/archdischild-2020-321443

⇒ Li W, Fu M, Qian C, Liu X, Zeng L, Peng X, et al. Quantitative assessment of COVID-19 pneumonia in neonates using lung ultrasound score. Pediatr Pulmonol. 2021 Mar 13.

Doi: 10.1002/ppul.25325

Abstract

Background: Lung ultrasound (LUS) and lung ultrasound score (LUSS) have been successfully used to diagnose neonatal pneumonia, assess the lesion distribution, and quantify the aeration loss. The present study design determines the diagnostic value of LUSS in the semi-quantitative assessment of pneumonia in coronavirus disease 2019 (COVID-19) neonates.

Methods: Eleven COVID-19 neonates born to mothers with COVID-19 infection and 11 age- and gender-matched controls were retrospectively studied. LUSS was acquired by assessing the lesions and aeration loss in 12 lung regions per subject.

Results: Most of the COVID-19 newborns presented with mild and atypical symptoms, mainly involving respiratory and digestive systems. In the COVID-19 group, a total of 132 regions of the lung were examined, 83 regions (62.8%) of which were detected abnormalities by LUS. Compared with controls, COVID-19 neonates showed sparse or confluent B-lines (83 regions), disappearing A-lines (83 regions), abnormal pleural lines (29 regions), and subpleural consolidations (2 regions). The LUSS was significantly higher in the COVID-19 group. In total, 49 regions (37%) were normal, 73 regions (55%) scored 1, and 10 regions (8%) scored 2 by LUSS. All the lesions were bilateral, with multiple regions involved. The majority of the lesions were located in the bilateral inferior and posterior regions. LUS detected abnormalities in three COVID-19 neonates with normal radiological performance. The intra-observer and inter-observer reproducibility of LUSS was excellent.

Conclusions: LUS is a noninvasive, convenient, and sensitive method to assess neonatal COVID-19 pneumonia, and can be used as an alternative to the use of diagnostic radiography. LUSS provides valuable semi-quantitative information on the lesion distribution and severity.

⇒ Pexton N, Svenson A, Bhat D. CASE REPORT - COVID-19 Infection in Infant with Severe Congenital Heart Disease. Cardiol Young. 2021 Mar 18;1–5.

Doi: 10.1017/s1047951121001384

Abstract

We describe the case of a 2 month old born with hypoplastic left heart syndrome who presented with fever and vomiting and was found to be infected with the novel corona virus (COVID-19). He underwent treatment with supplemental oxygen, heparin, and dexamethasone. After a 6 day hospitalization he recovered remarkably well without major adverse effects.

NEFROLOGIA
Publicaciones

⇒ **Faria BCD, Sacramento LGG, Filipin CSA, Cruz AF da, Nagata SN, Silva ACSE. An analysis of chronic kidney disease as a prognostic factor in pediatric cases of COVID-19. J Bras Nefrol. 2021 Mar 5.**

Doi: 10.1590/2175-8239-jbn-2020-0208

Abstract

Advanced age is a risk factor for severe infection by acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Children, however, often present with milder manifestations of Coronavirus Disease 2019 (COVID-19). Associations have been found between COVID-19 and multisystem inflammatory syndrome in children (MIS-C). Patients with the latter condition present more severe involvement. Adults with comorbidities such as chronic kidney disease (CKD) are more severely affected. This narrative review aimed to look into whether CKD contributed to more severe involvement in pediatric patients with COVID-19. The studies included in this review did not report severe cases or deaths, and indicated that pediatric patients with CKD and previously healthy children recovered quickly from infection. However, some patients with MIS-C required hospitalization in intensive care units and a few died, although it was not possible to correlate MIS-C and CKD. Conversely, adults with CKD reportedly had increased risk of severe infection by SARS-CoV-2 and higher death rates. The discrepancies seen between age groups may be due to immune system and renin-angiotensin system differences, with more pronounced expression of ACE2 in children. Immunosuppressant therapy has not been related with positive or negative effects in individuals with COVID-19, although current recommendations establish decreases in the dosage of some medications. To sum up with, CKD was not associated with more severe involvement in children diagnosed with COVID-19. Studies enrolling larger populations are still required.

NEUMOLOGÍA
Publicaciones

⇒ **Gray DM, Davies M-A, Githinji L, Levin M, Mapani M, Nowalaza Z, et al. COVID-19 y enfermedad pulmonar pediátrica: Experiencia en un centro de atención terciaria en Sudáfrica. KXN. 2021 Mar 9;1–7.**

Doi: 10.1159/000515615

Resumen

La pandemia de COVID-19 resultó en una rápida diseminación global, con profundos impactos en los sistemas de salud. Aunque los datos pediátricos muestran de manera consistente un cuadro clínico más leve, se ha identificado que la enfermedad pulmonar crónica es un factor de riesgo para la hospitalización y para desarrollar una enfermedad grave. En África, continente formado predominantemente por países con ingresos bajos o medios (LMIC), la elevada prevalencia de VIH, tuberculosis, desnutrición y hacinamiento aumenta aún más los riesgos a la salud. En este trabajo se revisa la literatura sobre COVID-19 y enfermedad pulmonar crónica en niños, y relata nuestra experiencia en un centro de atención pulmonar pediátrico en Ciudad del Cabo, Sudáfrica. Los datos epidemiológicos en Sudáfrica confirman una baja prevalencia de la enfermedad grave, donde los pacientes < 18 años comprenden 8% de todos los casos diagnosticados de COVID-19 y 3% de todas las admisiones por esa causa. Se encontró una reducción en la admisión hospitalaria por otras infecciones del tracto respiratorio inferior. Aunque el servicio de pulmonología atiende niños con una amplia variedad de condiciones respiratorias crónicas, incluyendo bronquiectasias, fibrosis quística, asma, enfermedad pulmonar intersticial y pacientes con traqueostomías, no se observó un incremento significativo en las admisiones por COVID-19, y en quienes desarrollaron COVID-19, el curso de la enfermedad no fue grave. La evidencia actual sugiere que la preexistencia de una enfermedad respiratoria en niños no parece ser un factor de riesgo significativo para el COVID-19 grave. Aún se requieren datos longitudinales para evaluar el riesgo en niños con inmunosupresión y enfermedades pulmonares intersticiales. Los impactos indirectos de la respuesta a la pandemia en la salud respiratoria de los niños son notables, y es muy probable que aún deban comprenderse y cuantificarse. Garantizar el acceso de los niños a servicios preventivos y de cuidado completos durante este tiempo es prioritario.

⇒ Cahal M, Amirav I, Diamant N, Be'er M, Besor O, Lavie M. Real-time effects of COVID-19 pandemic lockdown on pediatric respiratory patients. Pediatr Pulmonol. 2021 Mar 17.

Doi: 10.1002/ppul.25310

Abstract

Objective: A national lockdown was implemented in Israel to slow the viral spread of COVID-19. We assessed the real-time effects of the lockdown on disease expression and lifestyle modifications in pediatric patients with chronic respiratory disorders.

Methods: An anonymous electronic questionnaire was distributed during lockdown (March-May 2020) to caregivers of patients with chronic respiratory disorders. The primary outcome was change in disease expression and the secondary outcomes were changes in lifestyle and caregivers' emotional status.

Results: The clinical status of one-third of the 445 participating patients (age 0-18 years) reportedly improved, including decreased respiratory symptoms (n = 133, 33%), exacerbation frequency (n = 147, 35%), and use of reliever medications (n = 101, 27.4%). The condition of ~10% of the patients worsened. Clinical improvement was noted mostly in young patients <5 years (p = .001), asthmatic patients (p = .033), and patients with multiple underlying respiratory disorders (p = .015). Patients whose condition significantly worsened were more likely to be >5 years (p < .001), had increased screen time, decreased physical activity, and shorter sleep duration compared to their younger counterparts (p = .008, <.001, and .001, respectively). Caregivers' reports (n = 236 [58%]) of their own anxiety levels and perceptions of the patients' elevated health risk were increased, regardless of the children's actual clinical status.

Conclusion: COVID-19 lockdown was associated with clinical improvement/stability for most of the surveyed children; however, their caregivers' anxiety level was heightened. An increased sedentary lifestyle was reported mostly in older children.

NEUROLOGÍA
Publicaciones

⇒ LaRovere KL, Riggs BJ, Poussaint TY, Young CC, Newhams MM, Maamari M, et al. Neurologic Involvement in Children and Adolescents Hospitalized in the United States for COVID-19 or Multisystem Inflammatory Syndrome. JAMA Neurol. 2021 Mar 5.

Doi: 10.1001/jamaneurol.2021.0504

Abstract

Importance: Coronavirus disease 2019 (COVID-19) affects the nervous system in adult patients. The spectrum of neurologic involvement in children and adolescents is unclear.

Objective: To understand the range and severity of neurologic involvement among children and adolescents associated with COVID-19.

Setting, design, and participants: Case series of patients (age <21 years) hospitalized between March 15, 2020, and December 15, 2020, with positive severe acute respiratory syndrome coronavirus 2 test result (reverse transcriptase-polymerase chain reaction and/or antibody) at 61 US hospitals in the Overcoming COVID-19 public health registry, including 616 (36%) meeting criteria for multisystem inflammatory syndrome in children. Patients with neurologic involvement had acute neurologic signs, symptoms, or diseases on presentation or during hospitalization. Life-threatening involvement was adjudicated by experts based on clinical and/or neuroradiologic features.

Exposures: Severe acute respiratory syndrome coronavirus 2.

Main outcomes and measures: Type and severity of neurologic involvement, laboratory and imaging data, and outcomes (death or survival with new neurologic deficits) at hospital discharge.

Results: Of 1695 patients (909 [54%] male; median [interquartile range] age, 9.1 [2.4-15.3] years), 365 (22%) from 52 sites had documented neurologic involvement. Patients with neurologic involvement were more likely to have underlying neurologic disorders (81 of 365 [22%]) compared with those without (113 of 1330 [8%]), but a similar number were previously healthy (195 [53%] vs 723 [54%]) and met criteria for multisystem inflammatory syndrome in children (126 [35%] vs 490 [37%]). Among those with neurologic involvement, 322 (88%) had transient symptoms and survived, and 43 (12%) developed life-threatening conditions clinically adjudicated to be associated with COVID-19, including severe encephalopathy (n = 15; 5 with splenial lesions), stroke (n = 12), central nervous system infection/demyelination (n = 8), Guillain-Barré syndrome/variants (n = 4), and acute fulminant cerebral edema (n = 4). Compared with those without life-threatening conditions (n = 322), those with life-threatening neurologic conditions had higher neutrophil-to-lymphocyte ratios (median, 12.2 vs 4.4) and higher reported frequency of D-dimer greater than 3 µg/mL fibrinogen equivalent units (21 [49%] vs 72 [22%]). Of 43 patients who developed COVID-19-related life-threatening neurologic involvement, 17 survivors (40%) had new neurologic deficits at hospital discharge, and 11 patients (26%) died.

Conclusions and relevance: In this study, many children and adolescents hospitalized for COVID-19 or multisystem inflammatory syndrome in children had neurologic involvement, mostly transient symptoms. A range of life-threatening and fatal neurologic conditions associated with COVID-19 infrequently occurred. Effects on long-term neurodevelopmental outcomes are unknown.

⇒ **Kanğın M, Talay MN, Kavak Ş, Alparslan C, Sayınbatur B, Akar A, et al. Brain death in a child as a result of COVID-19-associated acute stroke: The first case. J Paediatr Child Health. 2021 Mar 12.**

Instructive Case

Doi: 10.1111/jpc.15421

NUTRICIÓN
Publicaciones

⇒ **Jenssen BP, Kelly MK, Powell M, Bouchelle Z, Mayne SL, Fiks AG. COVID-19 and Changes in Child Obesity. Pediatrics. 2021 Mar 2.**

Doi: 10.1542/peds.2021-050123

Introduction

The coronavirus disease 2019 (COVID-19) pandemic has caused economic hardship, school closings, shutdowns, limited physical activities and increased food insecurity for many families. In December 2020, the American Academy of Pediatrics (AAP) released interim guidance on how pediatricians can help children and families address healthy lifestyles and obesity management during the pandemic. To best support pediatric health system obesity-prevention and management efforts, a better understanding of emerging disparities is needed to identify atrisk populations and develop focused interventions. Through a large pediatric primary care network, we evaluated the shifting rates of obesity for patients attending visits and explored disparities based on age, race/ethnicity, insurance, and income.

ODONTOLOGÍA
Publicaciones

⇒ Ilyas N, Sood S, Radia R, Suffern R, Fan K. Paediatric dental pain and infection during the COVID period. Surgeon. 2021 Mar 1.

Doi: 10.1016/j.surge.2020.12.011

Abstract

Background: During the coronavirus pandemic, paediatric patients will still likely present with dental pain and infection. In order to streamline care at King's College Hospital (KCH), Paediatric Dentistry and Oral and Maxillofacial Surgery (OMFS) have developed a collaborative working approach allowing patients to be treated effectively and to streamline patient care in the absence of easy access to general anaesthetic facilities.

Method: Presenting complaints, treatment need and the treatment received were recorded for all paediatric patients presenting with dental pain and infection in the "lockdown" period (23rd March- 14th June) during "normal" working hours and "out of hours" to either paediatric dentistry or OMFS.

Results: 420 calls were triaged which converted to 67 patients seen face-to-face for oro-facial pain and infection. 41% of children were treated successfully under Local anaesthetic alone, only 13% required a general anaesthetic (GA) in the "lockdown" period. The vast majority of patients had antibiotics prescribed prior to attendance (80%).

Conclusion: We have demonstrated the demographic, presenting complaints and treatment need of patients who presented to KCH during the lockdown period with dental pain and infection. The majority were able to be treated without needing for GA facilities. This paper highlights how a collaborative approach between paediatric dentistry and OMFS can help streamline patient care and is a model which can be adopted by other units in the event of further "lockdowns".

⇒ **Brondani B, Knorst JK, Tomazoni F, Dutra Cósta M, Vargas AW, Noronha TG, et al. Effect of the COVID-19 pandemic on behavioral and psychosocial factors related to oral health in adolescents: a cohort study. Int J Paediatr Dent. 2021 Mar 17.**

Doi: 10.1111/ipd.12784

Abstract

Background: The impact of the COVID-19 pandemic on behavioral and psychosocial aspects related to oral health are still unknown.

Aim: This study evaluated the psychosocial and behavioral changes related to oral health in adolescents immediately before and during the pandemic period of COVID-19, enabling a longitudinal assessment of the perceived changes.

Design: This cohort study evaluated 290 adolescents from November 2019 to February 2020 (T1-before the pandemic in Brazil) and June to July 2020 (T2) in southern Brazil. Sociodemographic, behavioral, and psychosocial variables were measured before and during the pandemic. Issues related to social distancing and job loss were also collected. The differences between the variables in T1 and T2, as well as the effect of social distancing, were assessed using a multilevel adjusted Logistic regression model for repeated measures.

Results: 207 adolescents were reevaluated at T2 (a response rate of 71.3%). During the pandemic, the frequency of toothbrushing, the use of dental services, and the self-perceived need for dental treatment significantly decreased. Sugar consumption, bruxism, and quality of sleep did not change significantly.

Conclusion: Behavioral and psychosocial factors showed significant changes due to the COVID-19 pandemic in adolescents.

OFTALMOLOGÍA
Publicaciones

⇒ **De Oliveira MR, Lucena ARVP, Higino TM, Ventura CV. Oculomotor nerve palsy in an asymptomatic child with COVID-19. J AAPOS. 2021 Mar 6.**

Doi: 10.1016/j.jaapos.2021.02.001

Abstract

We report the case of a 2-year-old girl with acute-onset divergent strabismus and ptosis in the right eye. She had an exotropia of 45Δ for near, eyelid ptosis affecting the visual axis, adduction, limitations of up- and down-gaze, and a discrete mydriasis in the right eye. Neurological conditions were ruled out. Serology was positive for SARS-CoV-2 antibodies. The patient was managed conservatively with ocular physiotherapy and close visual acuity monitoring. On follow-up examination at 1 month, there was marked improvement of the exotropia (25Δ for near), adduction, ptosis, and mydriasis.

ONCOLOGÍA
Publicaciones

⇒ **Prasad Meena J, Kumar Gupta A, Tanwar P, Ram Jat K, Mohan Pandey R, Seth R. Clinical presentations and outcomes of children with cancer and COVID-19: A systematic review. Pediatr Blood Cancer. 2021 Mar 15;e29005.**

Doi: 10.1002/pbc.29005

Abstract

Information regarding the novel coronavirus disease (COVID-19) in pediatric oncology is limited. We conducted a systematic review of the available published literature on children with cancer affected by COVID-19. The last date of the study search was October 20, 2020, and 33 studies comprising 226 children were included for the final analysis. Data were extracted in a predefined data collection form, and the variables were extracted and analyzed. Patients with hematological malignancies were more in number. Males and children on intensive treatment were more frequently affected. Fever was the commonest symptom. The disease was asymptomatic/mild in 48% and severe in 9.6%. Consolidation, peribronchial cuffing, and consolidation with ground glass opacities were the common imaging findings. Hydroxychloroquine was the most frequently used drug for COVID-19. About 10% of children required intensive care, and about 32% had oxygen requirements. The percentage of children who died due to COVID-19 was 4.9%. The severity, morbidity, and mortality of COVID-19 in pediatric oncology were more compared to the general pediatric population. This information can help in risk stratification for the management of COVID-19.

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RADIOLOGÍA
Publicaciones

⇒ **Islam N, Ebrahimzadeh S, Salameh J-P, Kazi S, Fabiano N, Treanor L, et al. Thoracic imaging tests for the diagnosis of COVID-19. Cochrane Database Syst Rev. 2021 Mar 16;3:CD013639.**

Doi: 10.1002/ppul.25313

Abstract

Background: The respiratory illness caused by SARS-CoV-2 infection continues to present diagnostic challenges. Our 2020 edition of this review showed thoracic (chest) imaging to be sensitive and moderately specific in the diagnosis of coronavirus disease 2019 (COVID-19). In this update, we include new relevant studies, and have removed studies with case-control designs, and those not intended to be diagnostic test accuracy studies.

Objectives: To evaluate the diagnostic accuracy of thoracic imaging (computed tomography (CT), X-ray and ultrasound) in people with suspected COVID-19.

Search methods: We searched the COVID-19 Living Evidence Database from the University of Bern, the Cochrane COVID-19 Study Register, The Stephen B. Thacker CDC Library, and repositories of COVID-19 publications through to 30 September 2020. We did not apply any language restrictions.

Selection criteria: We included studies of all designs, except for case-control, that recruited participants of any age group suspected to have COVID-19 and that reported estimates of test accuracy or provided data from which we could compute estimates.

Data collection and analysis: The review authors independently and in duplicate screened articles, extracted data and assessed risk of bias and applicability concerns using the QUADAS-2 domain-list. We presented the results of estimated sensitivity and specificity using paired forest plots, and we summarised pooled estimates in tables. We used a bivariate meta-analysis model where appropriate. We presented the uncertainty of accuracy estimates using 95% confidence intervals (CIs).

Authors' conclusions: Our findings indicate that chest CT is sensitive and moderately specific for the diagnosis of COVID-19. Chest X-ray is moderately sensitive and moderately specific for the diagnosis of COVID-19. Ultrasound is sensitive but not specific for the diagnosis of COVID-19. Thus, chest CT and ultrasound may have more utility for excluding COVID-19 than for differentiating SARS-CoV-2 infection from other causes of respiratory illness. Future diagnostic accuracy studies should pre-define positive imaging findings, include direct comparisons of the various modalities of interest in the same participant population, and implement improved reporting practices.

⇒ **Musolino AM, Boccuzzi E, Supino MC, Scialanga B, De Sanctis F, Buonsenso D, et al. Point-of-care lung ultrasound in the diagnosis and monitoring of paediatric patients with spontaneous pneumothorax in SARS-CoV-2 infection. J Paediatr Child Health. 2021 Mar 3.**

Doi: 10.1111/jpc.15410

Abstract

Point-of-care lung ultrasound is a widely used tool in the diagnosis and management of patients with pulmonary diseases and now with SARS-CoV-2 infection. We describe two cases of pneumothorax which are, as far as we know, among the first reported in COVID-19 patients younger than 18 years. The diagnostic and monitoring role of point-of-care lung ultrasound has been extremely useful in the management of patients.

SALUD MENTAL
Publicaciones

⇒ **Huang S, Sun T, Zhu Y, Song S, Zhang J, Huang L, et al. Impact of the COVID-19 Pandemic on Children with ASD and Their Families: An Online Survey in China. Psychol Res Behav Manag. 2021;14:289–97.**

Doi: 10.2147/prbm.s293426

Abstract

Background: The COVID-19 pandemic and lockdown will have short-term and long-term psychosocial and mental health implications for children. Children with autism may have some specific needs for support because of their difficulties in social communication, stereotyped behavior patterns, and other specificities brought about by autism.

Purpose: The purpose of this study was to investigate the impact of the COVID-19 pandemic on ASD children and their families.

Patients and methods: A total of 406 parents of ASD children completed an online survey investigating basic information; sleep, outdoor activities, and rehabilitation training; ASD children's frequency of abnormal behaviors; and stress and emotional status of parents.

Results: 50.3% of the parents thought their children had sleep problems, and 47.3% of the parents thought their children's outdoor activity time was reduced. About 40% of parents think that their children have improved cognitive ability, language expression, and understanding. 36.2% of the families reported that their children's emotional and social performance became worse. 60.8% of parents reported that their children's training intensity decreased. The most common abnormal behaviors observed in children with ASD were being easily distracted, losing temper, and crying. 81.3% of parents did not have anxiety, but 98% of parents reported that family training was under pressure.

Conclusion: The main impact of the COVID-19 pandemic on children with ASD is that they do not have access to professional rehabilitation training. These families need more medical support, especially in family training, to help parents improve the social and emotional control skills of ASD children.

⇒ **Heyman I, Liang H, Hedderly T. COVID-19 related increase in childhood tics and tic-like attacks. Arch Dis Child. 2021 Mar 6.**

Viewpoint

Doi: 10.1136/archdischild-2021-321748

⇒ **Baweja R, Brown SL, Edwards EM, Murray MJ. COVID-19 Pandemic and Impact on Patients with Autism Spectrum Disorder. J Autism Dev Disord. 2021 Mar 10.**

Doi: 10.1007/s10803-021-04950-9

Abstract

The COVID-19 infectious disease pandemic has caused significant fear and uncertainty around the world and had significant adverse psychological impact. Children, adolescents and adults with autism spectrum disorder (ASD) are a particularly vulnerable population, impacted by stay-at-home orders, closures at non-essential services, and social distancing standards. This commentary describes various challenges faced by individuals with ASD in the United States including disruptions caused by educational and vocational changes, challenges to home and leisure routines, limited access to behavioral health services and changes in health services delivery due to the pandemic. We highlight the need for ongoing skills development for individuals and development within systems to better respond to needs of the ASD population in future emergencies.

⇒ **Jang J, White SP, Esler AN, Kim SH, Klaiman C, Megerian JT, et al. Diagnostic Evaluations of Autism Spectrum Disorder during the COVID-19 Pandemic. J Autism Dev Disord. 2021 Mar 17.**

Doi: 10.1007/s10803-021-04960-7

Abstract

A global pandemic has significantly impacted the ability to conduct diagnostic evaluations for autism spectrum disorder (ASD). In the wake of the coronavirus, autism centers and providers quickly needed to implement innovative diagnostic processes to adapt in order to continue serve patient needs while minimizing the spread of the virus. The International Collaborative for Diagnostic Evaluation of Autism (IDEA) is a grassroots organization that came together to discuss standards of care during the pandemic and to provide a forum wherein providers communicated decisions. This white paper is intended to provide examples of how different centers adjusted their standard approaches to conduct diagnostic evaluations for ASD during the pandemic and to provide insight to other centers as they go through similar challenges.

⇒ **Ranjbar K, Hosseinpour H, Shahriarirad R, Ghaem H, Jafari K, Rahimi T, et al. Students' attitude and sleep pattern during school closure following COVID-19 pandemic quarantine: a web-based survey in south of Iran. Environ Health Prev Med. 2021 Mar 10;26(1):33.**

Doi: 10.1186/s12199-021-00950-4

Abstract

Background: School closure is one of the main policies of global health care strategies performed worldwide. Despite all benefits, there might be some threats for younger groups spending their time in quarantine. This study aims to determine the impacts of lockdown and school closure on children's major lifestyle aspects, especially their leisure and sleep pattern during the COVID-19 pandemic.

Methods: For the purpose of this study, an online questionnaire was distributed from 14th to 31st of March 2020 among the schools and students from the first grade to the 12th grade (before university) in Fars province, southern Iran. The questionnaire consisted of five sections which included data regarding the students' general information, activity priorities, adherence to quarantine, attitude toward school closure, and sleep patterns.

Results: In our study, 20,697 filled questionnaires were received from the participants with an average age of 13.76 years; 29.7% of them were male, 80.6% were from urban areas, and 83.3% were from public schools. The overall first preference of students during school closure was mobile and computer games (30.1%), followed by studying (26.6%) and watching television (13.8%). Our results demonstrated that the majority of students adhered to social distancing and there was also a significant correlation among education levels and desire for schools to be closed till the end of the semester (P = 0.015). Also, regarding sleep patterns, the majority (53.5%) had above 12 h of sleep throughout the day.

Conclusion: It seems that lockdown following COVID-19 pandemic has changed various aspects of the students' lifestyle remarkably, especially by increasing screen time and even sleep duration and pattern. We believe that certain strategies should be implemented by the Health and Educational Ministry to control not only the visible side effects of the quarantine period, but also the collateral consequences on their psychological and mental health.

SALUD PÚBLICA / POLÍTICAS EN SALUD / GESTIÓN EN SALUD
Publicaciones

⇒ **Lubrano R, Bloise S, Testa A, Marcellino A, Dilillo A, Mallardo S, et al. Assessment of Respiratory Function in Infants and Young Children Wearing Face Masks During the COVID-19 Pandemic. JAMA Netw Open. 2021 Mar 1;4(3):e210414.**

Doi: 10.1001/jamanetworkopen.2021.0414

Abstract

Importance: Face masks have been associated with effective prevention of diffusion of viruses via droplets. However, the use of face masks among children, especially those aged younger than 3 years, is debated, and the US Centers for Disease Control and American Academy of Physicians recommend the use of face mask only among individuals aged 3 years or older.

Objective: To examine whether the use of surgical facial masks among children is associated with episodes of oxygen desaturation or respiratory distress.

Design, setting, and participants: This cohort study was conducted from May through June 2020 in a secondary-level hospital pediatric unit in Italy. Included participants were 47 healthy children divided by age (ie, group A, aged ≤24 months, and group B, aged >24 months to ≤144 months). Data were analyzed from May through June 2020.

Interventions: All participants were monitored every 15 minutes for changes in respiratory parameters for the first 30 minutes while not wearing a surgical face mask and for the next 30 minutes while wearing a face mask. Children aged 24 months and older then participated in a walking test for 12 minutes.

Main outcomes and measures: Changes in respiratory parameters during the use of surgical masks were evaluated.

Results: Among 47 children, 22 children (46.8%) were aged 24 months or younger (ie, group A), with 11 boys (50.0%) and median (interquartile range [IQR]) age 12.5 (10.0-17.5) months, and 25 children (53.2%) were aged older than 24 months to 144 months or younger, with 13 boys (52.0%) and median (IQR) age 100.0 (72.0-120.0) months. During the first 60 minutes of evaluation in the 2 groups, there was no significant change in group A in median (IQR) partial pressure of end-tidal carbon dioxide (Petco2; 33.0 [32.0-34.0] mm Hg; P for Kruskal Wallis = .59), oxygen saturation (Sao2; 98.0% [97.0%-99.0%]; P for Kruskal Wallis = .61), pulse rate (PR; 130.0 [115.0-140.0] pulsations/min; P for Kruskal Wallis = .99), or respiratory rate (RR; 30.0 [28.0-33.0] breaths/min; P for Kruskal Wallis = .69) or for group B in median (IQR) Petco2 (36.0 [34.0-38.0] mm Hg; P for Kruskal Wallis = .97), Sao2 (98.0% [97.0%-98.0%]; P for Kruskal Wallis = .52), PR (96.0 [84.0-104.5] pulsations/min; P for Kruskal Wallis test = .48), or RR (22.0 [20.0-25.0] breaths/min; P for Kruskal Wallis = .55). After the group B walking test, compared with before the walking test, there was a significant increase in median (IQR) PR (96.0 [84.0-104.5] pulsations/min vs 105.0 [100.0-115.0] pulsations/min; P < .02) and RR (22.0 [20.0-25.0] breaths/min vs 26.0 [24.0-29.0] breaths/min; P < .05).

Conclusions and relevance: This cohort study among infants and young children in Italy found that the use of facial masks was not associated with significant changes in Sao2 or Petco2, including among children aged 24 months and younger.

⇒ **Pavlovic A, DeFina LF, Natale BL, Thiele SE, Walker TJ, Craig DW, et al. Keeping children healthy during and after COVID-19 pandemic: meeting youth physical activity needs. BMC Public Health. 2021 Mar 11;21(1):485.**

Doi: 10.1186/s12889-021-10545-x

Abstract

Background: The purpose of this study was to: 1) examine the maintenance of Physical Education and physical activity during the distance learning time, 2) determine the resources educators are utilizing to deliver PE curricula, and 3) understand the challenges experienced by educators during distance learning.

Methods: A survey was sent to a cohort of school-based fitness assessment software users. Respondents were largely school-based individuals including PE teachers (n = 1789), school (n = 62) and district administrators (n = 64), nurses (n = 3), and "other" (n = 522).

Results: Of 2440 respondents, most were from a city or suburb (69.7%), elementary or middle school (72.3%), and had Title 1 status (60.4%), an indicator of low socioeconomic status. Most campuses were closed during the COVID-19 pandemic (97.8%). Of the schools closed during the pandemic, only 2.8% had no prior PE requirements and that increased to 21% during the pandemic. In schools that remained open during the pandemic, 7.7% had no prior PE requirements and this increased to 60.5%. Importantly, 79% of respondents reported that students were either "significantly less" or "somewhat less" physically active during the closure. For closed schools, the most frequently cited challenges included "student access to online learning", "teacher/student communication" and "teacher remote work arrangements". For open schools, the most commonly reported challenges included "social distancing", "access to gymnasium/equipment", and "concern for personal health and wellbeing".

Conclusion: The COVID-19 pandemic has caused important reductions in PE requirements and time engaged in physical activity. Challenges experienced by teachers were identified for closed and open schools.

SERVICIOS DE SALUD
Publicaciones

⇒ **Synhorst DC, Bettenhausen JL, Hall M, Thurm C, Shah SS, Auger KA, et al. Healthcare Encounter and Financial Impact of COVID-19 on Children's Hospitals. J Hosp Med. 2021 Mar 8.**

Doi: 10.12788/jhm.3572

Abstract

Children's hospitals responded to COVID-19 by limiting nonurgent healthcare encounters, conserving personal protective equipment, and restructuring care processes to mitigate viral spread. We assessed year-over-year trends in healthcare encounters and hospital charges across US children's hospitals before and during the COVID-19 pandemic. We performed a retrospective analysis, comparing healthcare encounters and inflation-adjusted charges from 26 tertiary children's hospitals reporting to the PROSPECT database from February 1 to June 30 in 2019 (before the COVID-19 pandemic) and 2020 (during the COVID-19 pandemic). All children's hospitals experienced similar trends in healthcare encounters and charges during the study period. Inpatient bed-days, emergency department visits, and surgeries were lower by a median 36%, 65%, and 77%, respectively, per hospital by the week of April 15 (the nadir) in 2020 compared with 2019. Across the study period in 2020, children's hospitals experienced a median decrease of $276 million in charges.

SÍNDROME INFLAMATORIO MULTISISTÉMICO (MIS-C)
Publicaciones

⇒ **Tamez-Rivera O, Villarreal-Treviño AV, Castañeda-Macazaga T, Britton-Robles SC, Ramos-Gómez LI, Rubio-Pérez NE. Abnormal Nailfold Capillaroscopy in a Patient With Multisystem Inflammatory Syndrome in Children. Pediatr Infect Dis J. 2021 Mar 1;40 (3):e113–5.**

Doi: 10.1016/j.kint.2021.02.026

Abstract

This study describes the incidence, associated clinical characteristics and outcomes of acute kidney injury in a pediatric cohort with COVID-19 and Multisystem Inflammatory Syndrome in Children (MIS-C). We performed a retrospective study of patients 18 years of age and under admitted to four New York hospitals in the Northwell Health System interned during the height of the COVID-19 pandemic, between March 9 and August 13, 2020. Acute kidney injury was defined and staged according to Kidney Disease: Improving Global Outcomes criteria. The cohort included 152 patients; 97 acute-COVID-19 and 55 with MIS-C associated with COVID-19. Acute kidney injury occurred in 8 with acute-COVID-19 and in 10 with MIS-C. Acute kidney injury, in unadjusted models, was associated with a lower serum albumin level (odds ratio 0.17; 95% confidence interval 0.07, 0.39) and higher white blood cell counts (odds ratio 1.11; 95% confidence interval 1.04, 1.2). Patients with MIS-C and acute kidney injury had significantly greater rates of systolic dysfunction, compared to those without (80% vs 49%). In unadjusted models, patients with acute kidney injury had 8.4 days longer hospitalizations compared to patients without acute kidney injury (95% confidence interval, 4.4-6.7). Acute kidney injury in acute-COVID-19 and MIS-C may be related to inflammation and/or dehydration. Further research in larger pediatric cohorts is needed to better characterize risk factors for acute kidney injury in acute-COVID-19 and with MIS-C consequent to COVID-19.

⇒ **Perez-Toledo M, Faustini SE, Jossi SE, Shields AM, Marcial-Juarez E, Kanthimathinathan HK, et al. SARS-CoV-2-specific IgG1/IgG3 but not IgM in children with Pediatric Inflammatory Multi-System Syndrome. Pediatr Allergy Immunol. 2021 Mar 16.**

Doi: 10.1111/pai.13504

Abstract

There is a low rate of symptomatology associated with SARS-CoV-2 infection in children and a substantially lower risk of death than in adults . Nevertheless, in rare cases some children present with features of a multisystem inflammatory syndrome with overlapping features of Kawasaki disease and toxic shock syndrome.

⇒ **Basu M, Das SK. Clinical Characteristics of Paediatric Hyperinflammatory Syndrome in the Era of Corona Virus Disease 2019 (COVID-19). Indian J Clin Biochem. 2021 Mar 6;1–12.**

Doi: 10.1007/s12291-021-00963-4

Abstract

The pandemic of COVID-19 initially appeared to cause only a mild illness in children. However, it is now apparent that a small percentage of children can develop a hyperinflammatory syndrome labeled as Pediatric inflammatory multisystem syndrome-temporally associated with SARS-CoV-2 (PIMS-TS) with a phenotype resembling Kawasaki disease (KD) ('Kawa-COVID-19'). Features of this newly recognized condition may include fever, hypotension, severe abdominal pain and cardiac dysfunction, evidence of inflammation, and single or multi organ dysfunction in the absence of other known infections. Children emerge to have mild symptoms compared to adults, perhaps due to reduced expression of the angiotensin converting enzyme (ACE)-2 receptor (the target of SARS-CoV-2) gene, trained innate immunity, and a young and fit immune system. Some of these children may share features of Kawasaki disease, toxic shock syndrome or cytokine storm syndrome. They can deteriorate rapidly and may need intensive care support as well. The PCR test is more often negative although most of the children have antibodies to SARS-CoV-2. Although the pathogenesis is not clearly known, immune-mediated injury has been implicated.

⇒ **Cattaneo C, Drean M, Subiros M, Combe P, Abasse S, Chamouine A, et al. Multisystem Inflammatory Syndrome Associated With Severe Acute Respiratory Syndrome Coronavirus 2 in Children: A Case Series From Mayotte Island. J Pediatric Infect Dis Soc. 2021 Mar 13.**

Doi: 10.1093/jpids/piab011

Abstract

During the COVID-19 outbreak in the French overseas department Mayotte, 11 children developed multisystem inflammatory syndrome (MIS-C). They all had a fever and gastrointestinal symptoms. Six patients were admitted to intensive care unit; management included intravenous immunoglobulin and corticosteroid. Severe acute respiratory syndrome coronavirus 2 was documented in all patients. The risk of developing MIS-C was much higher than in all of France.

⇒ Abrams JY, Oster ME, Godfred-Cato SE, Bryant B, Datta SD, Campbell AP, et al. Factors linked to severe outcomes in multisystem inflammatory syndrome in children (MIS-C) in the USA: a retrospective surveillance study. Lancet Child Adolesc Health. 2021 Mar 9.

Doi: 10.1016/s2352-4642(21)00050-x

Abstract

Background: Multisystem inflammatory syndrome in children (MIS-C) is a newly identified and serious health condition associated with SARS-CoV-2 infection. Clinical manifestations vary widely among patients with MIS-C, and the aim of this study was to investigate factors associated with severe outcomes.

Methods: In this retrospective surveillance study, patients who met the US Centers for Disease Control and Prevention (CDC) case definition for MIS-C (younger than 21 years, fever, laboratory evidence of inflammation, admitted to hospital, multisystem [≥2] organ involvement [cardiac, renal, respiratory, haematological, gastrointestinal, dermatological, or neurological], no alternative plausible diagnosis, and either laboratory confirmation of SARS-CoV-2 infection by RT-PCR, serology, or antigen test, or known COVID-19 exposure within 4 weeks before symptom onset) were reported from state and local health departments to the CDC using standard case-report forms. Factors assessed for potential links to severe outcomes included pre-existing patient factors (sex, age, race or ethnicity, obesity, and MIS-C symptom onset date before June 1, 2020) and clinical findings (signs or symptoms and laboratory markers). Logistic regression models, adjusted for all pre-existing factors, were used to estimate odds ratios between potential explanatory factors and the following outcomes: intensive care unit (ICU) admission, shock, decreased cardiac function, myocarditis, and coronary artery abnormalities.

Findings: 1080 patients met the CDC case definition for MIS-C and had symptom onset between March 11 and Oct 10, 2020. ICU admission was more likely in patients aged 6-12 years (adjusted odds ratio 1·9 [95% CI 1·4-2·6) and patients aged 13-20 years (2·6 [1·8-3·8]), compared with patients aged 0-5 years, and more likely in non-Hispanic Black patients, compared with non-Hispanic White patients (1·6 [1·0-2·4]). ICU admission was more likely for patients with shortness of breath (1·9 [1·2-2·9]), abdominal pain (1·7 [1·2-2·7]), and patients with increased concentrations of C-reactive protein, troponin, ferritin, D-dimer, brain natriuretic peptide (BNP), N-terminal pro B-type BNP, or interleukin-6, or reduced platelet or lymphocyte counts. We found similar associations for decreased cardiac function, shock, and myocarditis. Coronary artery abnormalities were more common in male patients (1·5 [1·1-2·1]) than in female patients and patients with mucocutaneous lesions (2·2 [1·3-3·5]) or conjunctival injection (2·3 [1·4-3·7]).

Interpretation: Identification of important demographic and clinical characteristics could aid in early recognition and prompt management of severe outcomes for patients with MIS-C.

⇒ **Chen K-D, Lin W-C, Kuo H-C. Chemical and Biochemical Aspects of Molecular Hydrogen in Treating Kawasaki Disease and COVID-19. Chem Res Toxicol. 2021 Mar 15.**

Doi: 10.1021/acs.chemrestox.0c00456

Abstract

Kawasaki disease (KD) is a systemic vasculitis and is the most commonly acquired heart disease among children in many countries, which was first reported 50 years ago in Japan. The 2019 coronavirus disease (COVID-19, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)) has been a pandemic in most of the world since 2020, and since late 2019 in China. Kawasaki-like disease caused by COVID-19 shares some symptoms with KD, referred to as multisystem inflammatory syndrome in children, and has been reported in the United States, Italy, France, England, and other areas of Europe, with an almost 6-10 times or more increase compared with previous years of KD prevalence. Hydrogen gas is a stable and efficient antioxidant, which has a positive effect on oxidative damage, inflammation, cell apoptosis, and abnormal blood vessel inflammation. This review reports the chemical and biochemical aspects of hydrogen gas inhalation in treating KD and COVID-19.

⇒ **Kappanayil M, Balan S, Alawani S, Mohanty S, Leeladharan SP, Gangadharan S, et al. Multisystem inflammatory syndrome in a neonate, temporally associated with prenatal exposure to SARS-CoV-2: a case report. Lancet Child Adolesc Health. 2021 Mar 3.**

Case Report

Doi: 10.1016/s2352-4642(21)00055-9

⇒ **Dworsky ZD, Roberts JE, Son MBF, Tremoulet AH, Newburger JW, Burns JC. Mistaken MIS-C: A Case Series of Bacterial Enteritis Mimicking MIS-C. Pediatr Infect Dis J. 2021 Apr 1;40(4):e159–61.**

Doi: 10.1097/inf.0000000000003050

Abstract

Multisystem inflammatory syndrome in children following severe acute respiratory syndrome coronavirus 2 infection is characterized by fever, elevated inflammatory markers, and multisystem organ involvement. Presentations are variable but often include gastrointestinal symptoms. We describe 5 children with fever and gastrointestinal symptoms initially concerning for multisystem inflammatory syndrome in children who were ultimately diagnosed with bacterial enteritis, highlighting the diagnostic challenges presented by the severe acute respiratory syndrome coronavirus 2 pandemic.

⇒ **Broad J, Forman J, Brighouse J, Sobande A, McIntosh A, Watterson C, et al. Post-COVID-19 paediatric inflammatory multisystem syndrome: association of ethnicity, key worker and socioeconomic status with risk and severity. Arch Dis Child. 2021 Mar 16.**

Doi: 10.1136/archdischild-2020-320388

Abstract

Objectives: Patients from ethnic minority groups and key workers are over-represented among adults hospitalised or dying from COVID-19. In this population-based retrospective cohort, we describe the association of ethnicity, socioeconomic and family key worker status with incidence and severity of Paediatric Inflammatory Multisystem Syndrome Temporally associated with SARS-CoV-2 (PIMS-TS).

Setting: Evelina London Children's Hospital (ELCH), the tertiary paediatric hospital for the South Thames Retrieval Service (STRS) region.

Participants: 70 children with PIMS-TS admitted 14 February 2020-2 June 2020.

Outcome measures: Incidence and crude ORs are presented, comparing ethnicity and socioeconomic status of our cohort and the catchment population, using census data and Index of Multiple Deprivation (IMD). Regression is used to estimate the association of ethnicity and IMD with admission duration and requirement for intensive care, inotropes and ventilation.

Results: Incidence was significantly higher in children from black (25.0 cases per 100 000 population), Asian (6.4/100 000) and other (17.8/100 000) ethnic groups, compared with 1.6/100 000 in white ethnic groups (ORs 15.7, 4.0 and 11.2, respectively). Incidence was higher in the three most deprived quintiles compared with the least deprived quintile (eg, 8.1/100 000 in quintile 1 vs 1.6/100 000 in quintile 5, OR 5.2). Proportions of families with key workers (50%) exceeded catchment proportions. Admission length of stay was 38% longer in children from black ethnic groups than white (95% CI 4% to 82%; median 8 days vs 6 days). 9/10 children requiring ventilation were from black ethnic groups.

Conclusions: Children in ethnic minority groups, living in more deprived areas and in key worker families are over-represented. Children in black ethnic groups had longer admissions; ethnicity may be associated with ventilation requirement.This project was registered with the ELCH audit and service evaluation team, ref. no 11186.

⇒ **Pandrowala A, Panchal H, Mudaliar S, Bodhanwala M, Prabhu S, Jain S, et al. SARS-CoV-2-related multisystem inflammatory syndrome in an immunocompromised child with leukemia. Pediatr Blood Cancer. 2021 Mar 4;e28995.**

Letter

Doi: 10.1002/pbc.28995

⇒ Cattalini M, Della Paolera S, Zunica F, Bracaglia C, Giangreco M, Verdoni L, et al. Defining Kawasaki disease and pediatric inflammatory multisystem syndrome-temporally associated to SARS-CoV-2 infection during SARS-CoV-2 epidemic in Italy: results from a national, multicenter survey. Pediatr Rheumatol Online J. 2021 Mar 16;19(1):29.

Doi: 10.1186/s12969-021-00511-7

Abstract

Background: There is mounting evidence on the existence of a Pediatric Inflammatory Multisystem Syndrome-temporally associated to SARS-CoV-2 infection (PIMS-TS), sharing similarities with Kawasaki Disease (KD). The main outcome of the study were to better characterize the clinical features and the treatment response of PIMS -TS and to explore its relationship with KD determining whether KD and PIMS are two distinct entities.

Methods: The Rheumatology Study Group of the Italian Pediatric Society launched a survey to enroll patients diagnosed with KD (Kawasaki Disease Group - KDG) or KD-like (Kawacovid Group - KCG) disease between February 1st 2020, and May 31st 2020. Demographic, clinical, laboratory data, treatment information, and patients' outcome were collected in an online anonymized database (RedCAP®). Relationship between clinical presentation and SARS-CoV-2 infection was also taken into account. Moreover, clinical characteristics of KDG during SARS-CoV-2 epidemic (KDG-CoV2) were compared to Kawasaki Disease patients (KDG-Historical) seen in three different Italian tertiary pediatric hospitals (Institute for Maternal and Child Health, IRCCS "Burlo Garofolo", Trieste; AOU Meyer, Florence; IRCCS Istituto Giannina Gaslini, Genoa) from January 1st 2000 to December 31st 2019. Chi square test or exact Fisher test and non-parametric Wilcoxon Mann-Whitney test were used to study differences between two groups.

Results: One-hundred-forty-nine cases were enrolled, (96 KDG and 53 KCG). KCG children were significantly older and presented more frequently from gastrointestinal and respiratory involvement. Cardiac involvement was more common in KCG, with 60,4% of patients with myocarditis. 37,8% of patients among KCG presented hypotension/non-cardiogenic shock. Coronary artery abnormalities (CAA) were more common in the KDG. The risk of ICU admission were higher in KCG. Lymphopenia, higher CRP levels, elevated ferritin and troponin-T characterized KCG. KDG received more frequently immunoglobulins (IVIG) and acetylsalicylic acid (ASA) (81,3% vs 66%; p = 0.04 and 71,9% vs 43,4%; p = 0.001 respectively) as KCG more often received glucocorticoids (56,6% vs 14,6%; p < 0.0001). SARS-CoV-2 assay more often resulted positive in KCG than in KDG (75,5% vs 20%; p < 0.0001). Short-term follow data showed minor complications. Comparing KDG with a KD-Historical Italian cohort (598 patients), no statistical difference was found in terms of clinical manifestations and laboratory data.

Conclusion: Our study suggests that SARS-CoV-2 infection might determine two distinct inflammatory diseases in children: KD and PIMS-TS. Older age at onset and clinical peculiarities like the occurrence of myocarditis characterize this multi-inflammatory syndrome. Our patients had an optimal response to treatments and a good outcome, with few complications and no deaths.

⇒ **Khaund Borkotoky R, Banerjee Barua P, Paul SP, Heaton PA. COVID-19-Related Potential Multisystem Inflammatory Syndrome in Childhood in a Neonate Presenting as Persistent Pulmonary Hypertension of the Newborn. Pediatr Infect Dis J. 2021 Apr 1;40(4):e162–4.**

Doi: 10.1097/inf.0000000000003054

Abstract

A term infant with persistent pulmonary hypertension of newborn developed clinical and laboratory features of multisystem inflammatory syndrome in childhood (MIS-C) between days 12 and 14. Mother and baby were anti-SARS-Coronavirus-2 (SARS-CoV-2) IgG positive and anti-SARS-CoV-2 IgM negative on day 18, with negative COVID-19 PCR on repeated testing; possible first documentation of neonatal MIS-C following passive transfer of maternal antibodies.

TRASPLANTE
Publicaciones

⇒ **L'Huillier AG, Danziger-Isakov L, Chaudhuri A, Green M, Michaels MG, M Posfay-Barbe K, et al. SARS-CoV-2 and pediatric solid organ transplantation: Current knowns and unknowns. Pediatr Transplant. 2021 Mar 10;e13986.**

Doi: 10.1111/petr.13986

Abstract

The COVID-19 pandemic has proven to be a challenge in regard to the clinical presentation, prevention, diagnosis, and management of SARS-CoV-2 infection among children who are candidates for and recipients of SOT. By providing scenarios and frequently asked questions encountered in routine clinical practice, this document provides expert opinion and summarizes the available data regarding the prevention, diagnosis, and management of SARS-CoV-2 infection among pediatric SOT candidates and recipients and highlights ongoing knowledge gaps requiring further study. Currently available data are still lacking in the pediatric SOT population, but data have emerged in both the adult SOT and general pediatric population regarding the approach to COVID-19. The document provides expert opinion regarding prevention, diagnosis, and management of SARS-CoV-2 infection among pediatric SOT candidates and recipients.

⇒ **Varma S, Pandey Y, Chikkala BR, Acharya R, Verma S, B I, et al. Protocol to ensure continued pediatric liver transplantation service during the COVID pandemic and the encouraging outcomes. Pediatr Transplant. 2021 Mar 11;e13991.**

Doi: 10.1111/petr.13991

Abstract

Coronavirus disease 2019 is a global pandemic, and to deal with the unexpected, enormous burden on healthcare system, liver transplantation (LT) services have been suspended in many centers. Development of robust and successful protocols in preventing the disease among the recipients, donors and healthcare workers would help in restarting the LT programs. We adapted a protocol at our center, which is predominantly a living donor liver transplant center based in north India, and continued the service as the pandemic unfolded and peaked in India with good results and shared the experience of the same. Between March 24 and June 7, 2020, during the government-enforced public curfew-"lockdown"-7 children received LT. The protocols of infection control were drafted in our team by local customization of published guidelines. The number of pediatric LT done during the lockdown period in 2020 was similar to that done in corresponding pre-COVID period in 2019. The outcomes were of 100% survival, and none of recipients developed COVID. One potential donor was asymptomatic positive for COVID, responded well to conservative treatment, and was later accepted as a donor. LT program during the COVID pandemic can successfully function after putting in place standard protocols for infection control. These can be implemented with minimal extra involvement of healthcare infrastructure, hence without diversion of resources from COVID management. In conclusion, pediatric liver transplantation services can be continued amid COVID-19 pandemic after establishing a properly observed protocol with minimum additional resources.

⇒ Keating BJ, Mukhtar EH, Elftmann ED, Eweje FR, Gao H, Ibrahim LI, et al. Early Detection of SARS-CoV-2 and other Infections in Solid Organ Transplant Recipients and Household Members using Wearable Devices. Transpl Int. 2021 Mar 18.

Doi: 10.1111/tri.13860

Abstract

The increasing global prevalence of SARS-CoV-2 and the resulting COVID-19 disease pandemic pose significant concerns for clinical management of solid organ transplant recipients (SOTR). Wearable devices that can measure physiologic changes in biometrics including heart rate, heart rate variability, body temperature, respiratory, activity (such as steps taken per day) and sleep patterns and blood oxygen saturation, show utility for the early detection of infection before clinical presentation of symptoms. Recent algorithms developed using preliminary wearable datasets show that SARS-CoV-2 is detectable before clinical symptoms in >80% of adults. Early detection of SARS-CoV-2, influenza, and other pathogens in SOTR, and their household members, could facilitate early interventions such as self-isolation and early clinical management of relevant infection(s). Ongoing studies testing the utility of wearable devices such as smartwatches for early detection of SARS-CoV-2 and other infections in the general population are reviewed here, along with the practical challenges to implementing these processes at scale in pediatric and adult SOTR, and their household members. The resources and logistics, including transplant specific analyses pipelines to account for confounders such as polypharmacy and comorbidities, required in studies of pediatric and adult SOTR for the robust early detection of SARS-CoV-2 and other infections are also reviewed.

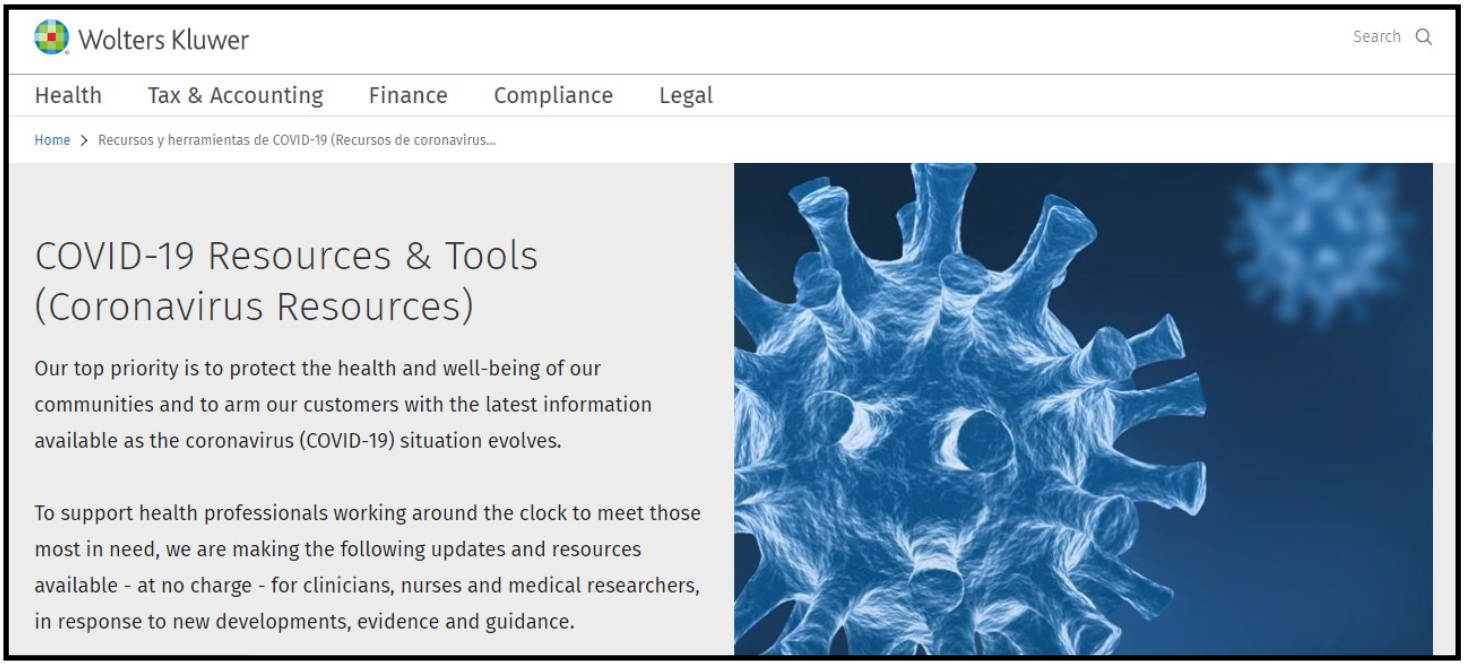
VACUNAS
Publicaciones

⇒ **Kalafat E, O'Brien P, Heath PT, Le Doare K, von Dadelszen P, Magee L, et al. Benefits and potential harms of COVID-19 vaccination during pregnancy: evidence summary for patient counseling. Ultrasound Obstet Gynecol. 2021 Mar 18.**

Opinion

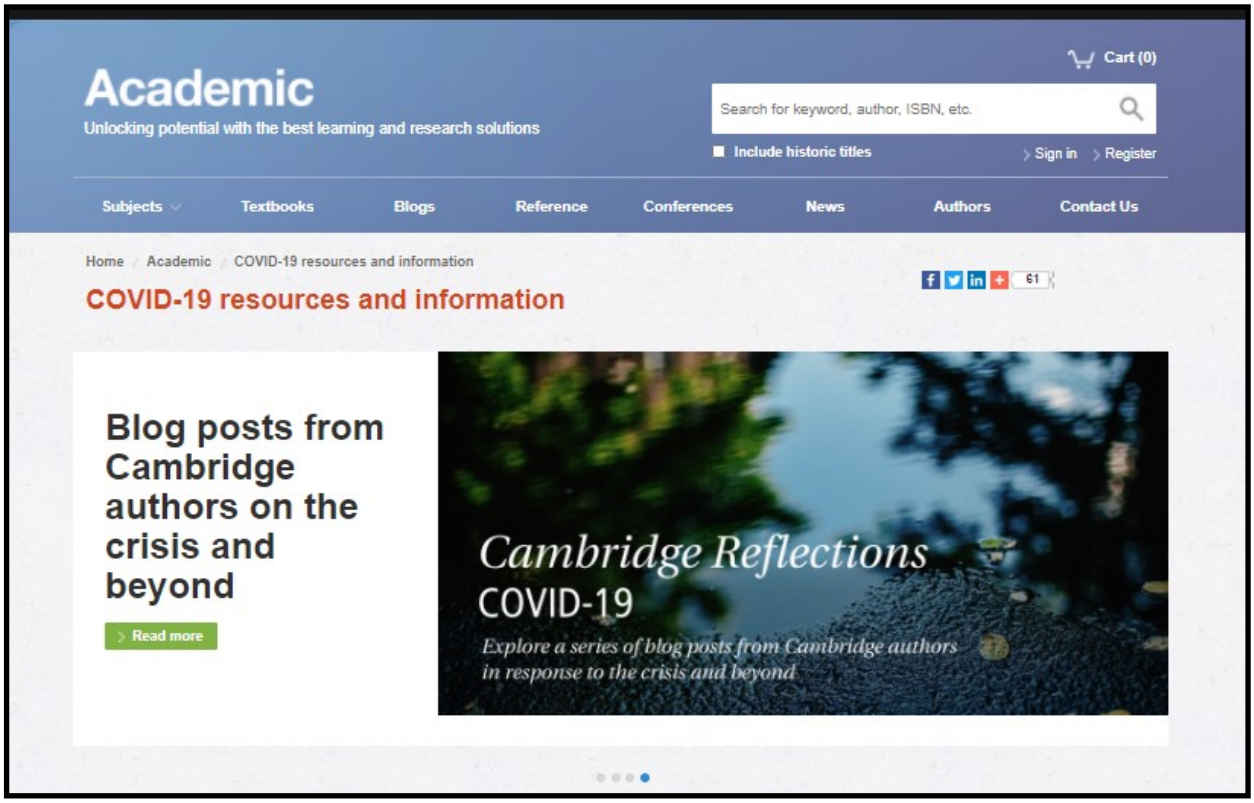
Doi: 10.1002/uog.23631

RECURSOS DE INFORMACIÓN



WOLTERS KLUWER
COVID-19 Resources & Tools

https://www.wolterskluwer.com/en/know/coronavirus-resources



COVID-19 resources and information CAMBRIDGE

https://www.cambridge.org/gb/academic/covid-19-resources-and-information

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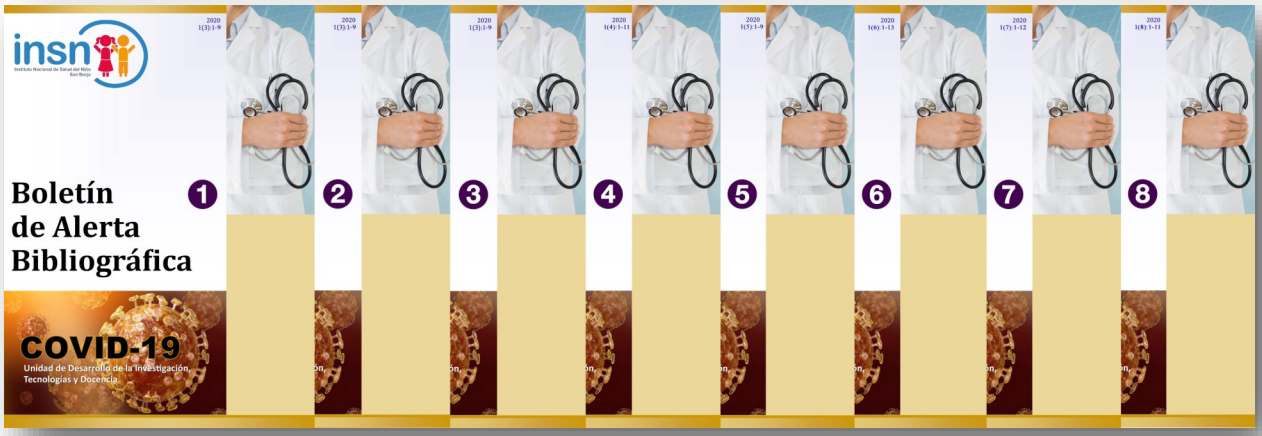

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