SOMMAIRE

DOCUMENTS GOUVERNEMENTAUX

ECMO chez l'enfant en situation de pandémie COVID-19

La situation très préoccupante de la pandémie actuelle par le SARS-CoV-2 (ou Coronavirus COVID-19) est responsable d'une incidence forte de syndrome de détresse respiratoire aigüe (SDRA) chez l'adulte. Néanmoins, cette situation exceptionnelle ne doit donc pas faire minimiser l'existence de formes graves chez l'enfant et l'adolescent.(...)

Société française d'anesthésie-réanimation (SFAR) (e-date: 06/04/2020)
Lien original

Alternate Care Sites

Establishing alternate care sites will help address surge in the response to COVID-19. An increase in the number of patients seeking medical care might require jurisdictions to establish alternate care sites (ACS) where patients with COVID-19 can receive medical care for the duration of their isolation period. These are typically established in non-traditional environments, such as converted hotels or mobile field medical units.

CDC (e-date: 06/04/2020)
Lien original

Réponses rapides dans le cadre du COVID-19 - Continuité du suivi des femmes enceintes

La prolongation du confinement, le rôle et la charge de travail des professionnels de santé, tant en ville qu'à l'hôpital, amènent à réinterroger les organisations en termes de

prévention et de prise en charge des femmes enceintes.
Ces préconisations portent sur le suivi des femmes enceintes pendant la période de confinement et sur la gestion des cas de femmes enceintes suspectées et/ou confirmées atteintes du COVID-19.
Haute Autorité de Santé (e-date: 01/04/2020)
Lien original

Continuité du suivi postnatal des femmes et de leur enfant
Ces préconisations portent sur les conditions et l'organisation du retour à domicile des mères et de leurs enfants pendant la période de confinement et sur la gestion des cas du retour à domicile de femmes atteintes du COVID-19 (sans signes de gravité) et de leur nouveau-né.
Haute Autorité de Santé (e-date: 02/04/2020)
MALADIES-INFECTIEUSES
Lien original

Assurer la continuité de la prise en charge des personnes atteintes de maladies chroniques somatiques pendant la période de confinement en ville
Les personnes atteintes de maladies chroniques sont plus exposées à des forme graves d'infection Covid-19 (HSCP, 2020). Dans ce contexte épidémique, ces personnes sont aussi plus à risque d'aggravation/de déstabilisation de leur maladie chronique du fait d'une moindre surveillance, en raison des mesures de confinement, de limitation des déplacements pour des consultations médicales en présentiel, réservées au cas les plus urgents. (...)
Haute Autorité de Santé (e-date: 02/04/2020)
Lien original

Prise en charge des patients souffrant de pathologies psychiatriques en situation de confinement à leur domicile
La très grande majorité des personnes souffrant de troubles psychiatriques est prise en charge en ambulatoire. Une adaptation de l'organisation, visant à assurer la continuité des soins psychiatriques dans ce contexte de crise sanitaire, est essentielle, en complément des plans blancs, principalement centrés sur l'activité hospitalière de soins somatiques.(...)
Haute Autorité de Santé (e-date: 02/04/2020)
Lien original

Vaccinations en période de pandémie de COVID-19
Office fédéral de la santé publique (OFSP) (e-date: 06/04/2020)
Lien original

Contact based transmission of SARS-CoV-2 - a rapid review
The findings in this memo are based on rapid searches in the PubMed. One researcher went through all search records, selected and summarised the findings. In the current situation, there is an urgent need for identifying the most important evidence quickly. Hence, we opted for this rapid approach despite an inherent risk of overlooking key evidence or making misguided judgements. (...)
Norwegian Institute of Public Health (e-date: 06/04/2020)
Lien original

Aerosol generating procedures in health care, and COVID-19
he findings in this memo are based on rapid searches in the PubMed and Embase databases. One researcher went through all search records, selected and summarised the findings. In the current situation, there is an urgent need for identifying the most important evidence quickly. Hence, we opted for this rapid approach despite an inherent risk of overlooking key evidence or making misguided judgements. (...)
Norwegian Institute of Public Health (e-date: 01/04/2020)

Lien original

Immunity after SARS-CoV-2 infection - a rapid review

The findings in this memo are based on rapid searches in PubMed, EMBASE and two pre-print databases. One researcher went through all search records, selected and summarised the findings. In the current situation, there is an urgent need for identifying the most important evidence quickly. Hence, we opted for this rapid approach despite an inherent risk of overlooking key evidence or making misguided judgements.

Norwegian Institute of Public Health (e-date: 07/04/2020)
Lien original

Sommaire

ARTICLES PUBLIES OU IN PRESS

Coronavirus Disease 2019 in Children â United States, February 12âApril 2, 2020

Data from China suggest that pediatric coronavirus disease 2019 (COVID-19) cases might be less severe than cases in adults and that children (persons aged <18 years) might experience different symptoms than adults.
In this preliminary description of pediatric U.S. COVID-19 cases, relatively few children with COVID-19 are hospitalized, and fewer children than adults experience fever, cough, or shortness of breath. Severe outcomes have been reported in children, including three deaths. (...)

MMWR Morb Mortal Wkly Rep (e-date: 06/04/2020)
Lien original

Covid-19 in South Korea — Challenges of Subclinical Manifestations

New England Journal of Medicine (e-date: 07/04/2020)
Song J-Y, Yun J-G, Noh J-Y, Cheong H-J, Kim W-J
Lien original

Prediction models for diagnosis and prognosis of covid-19 infection: systematic review and critical appraisal.

To review and critically appraise published and preprint reports of prediction models for diagnosing coronavirus disease 2019 (covid-19) in patients with suspected infection, for prognosis of patients with covid-19, and for detecting people in the general population at risk of being admitted to hospital for covid-19 pneumonia. (...)

BMJ (e-date: 07/04/2020)
Wynants L, Van Calster B, Bonten MMJ, Collins GS, Debray TPA, De Vos M, et al.
Lien original

Covid-19: NICE advises against using NSAIDs for fever in patients with suspected cases

Paracetamol should be used in preference to non-steroidal anti-inflammatory drugs for managing fever in patients with suspected covid-19 until more evidence is available on the safety of NSAIDs, the National Institute for Health and Care Excellence advises in a rapid guideline on managing symptoms of covid-19 in the community. (...)

BMJ (e-date: 07/04/2020)
Torjesen I
Lien original

Preparedness for COVID-19 in the oncology community in Africa

The world is experiencing an unprecedented health crisis with the coronavirus disease 2019 (COVID-19) pandemic threatening human existence and livelihood. Patients

with cancer are thought to be more susceptible and have higher morbidity and mortality rates from COVID-19 than the general population.

Africa, with a heterogeneity of economies, cultures, and disease patterns, is thankfully the last continent to be hit by the pandemic. (...)

Lien original

Consensus Report from Turkish Society of Cardiology: COVID-19 and Cardiovascular Diseases. What cardiologists should know. (25th March 2020)

In December 2019, in the city of Wuhan, in the Hubei province of China, treatment-resistant cases of pneumonia emerged and spread rapidly for reasons unknown. A new strain of coronavirus (severe acute respiratory syndrome coronavirus-2 [SARS-CoV-2]) was identified and caused the first pandemic of the 21st century.(...)

Lien original

The COVID-19 (Coronavirus) Pandemic: Reflections on the Roles of Librarians and Information Professionals

This Regular Feature explores the role of health science librarians in the coronavirus pandemic. COVID-19 has spread rapidly all over the world. All major cities around the globe are in lockdown. In Pakistan the first case was diagnosed on 26 Feb 2020 and currently there are more than 1500 diagnosed cases and 12 deaths.(...)

Lien original

Perioperative Echocardiography: Key Considerations During the Coronavirus Pandemic

Lien original

COVID-19 Related Misinformation on Social Media: A Qualitative Study from Iran

Background: During outbreaks of diseases a great amount of health threatening misinformation is produced and released. In the web-2 era much of this misinformation is disseminated via social media where information could spread easily and quickly.(...)

Lien original

Impact of school closures for COVID-19 on the US health-care workforce and net mortality: a modelling study

The coronavirus disease 2019 (COVID-19) pandemic is leading to social (physical) distancing policies worldwide, including in the USA. Some of the first actions taken by governments are the closing of schools. The evidence that mandatory school closures reduce the number of cases and, ultimately, mortality comes from experience with influenza or from models that do not include the effect of school closure on the health-care labour force. (...)

Lien original

COVID-19 infection in a paucisymptomatic infant: Raising the index of suspicion in epidemic settings

Few children have been reported to have been affected by novel coronavirus disease 2019 (COVID-19); it is unclear whether children are less likely to be infected or rather display fewer symptoms. We present the case of a 32-day-old boy infected by COVID-19 that presented with an upper air way infection which resolved spontaneously and did not require any therapy.(...).

Pediatr Pulmonol (e-date: 07/04/2020)
Canarutto D, Priolo A, Russo G, Pitea M, Vigone MC, Barera G
Lien original

About the origin of the first two Sars-CoV-2 infections in Italy: inference not supported by appropriate sequence analysis

In the 5th February 2020 issue of Journal of Medical Virology a paper was published by Giovannetti et al., entitled "The first two cases of 2019-nCoV in Italy: where they come from?"(1) . In this paper a phylogenetic and evolutionary analysis was applied to the virus identified in the first two subjects diagnosed in Italy with 2019-nCoV infection, recently renamed SARS-CoV-2(2) , two Chinese spouses arrived in Italy for tourism.(...)

J Med Virol (e-date: 07/04/2020)
Carletti F, Lalle E, Messina F, Ippolito G, Capobianchi MR
Lien original

Prioritizing Access to Surgical Care During the Coronavirus Pandemic

Dis Colon Rectum (e-date: 07/04/2020)
Carlson GL
Lien original

Author reply to Letters to the Editor CT chest findings in coronavirus disease (COVID-19)

J Formos Med Assoc (e-date: 07/04/2020)
Chang YC, Yang CH, Chien YC, Hsu YN
Lien original

High-Sensitivity Cardiac Troponin Can Be An Ally in the Fight Against COVID-19

Circulation (e-date: 07/04/2020)
Chapman AR, Bularga A, Mills NL
Lien original

Lung transplantation as therapeutic option in acute respiratory distress syndrome for COVID-19-related pulmonary fibrosis

BACKGROUND: Critical patients with the 2019 coronavirus disease (COVID-19), even those whose nucleic acid test results had turned negative and those receiving maximal medical support, have been noted to progress to irreversible fatal respiratory failure. Lung transplantation (LT) as the sole therapy for end-stage pulmonary fibrosis related to acute respiratory distress syndrome has been considered as the ultimate rescue therapy for these patients. (...)

Chin Med J (Engl) (e-date: 07/04/2020)
Chen JY, Qiao K, Liu F, Wu B, Xu X, Jiao GQ, et al
Lien original

Epidemiology and Clinical Features of Coronavirus disease 2019 in Children

Coronavirus disease-2019 (COVID-19), which started in Wuhan, China, in December 2019 and has been declared a worldwide pandemic in March 11, 2020, is a novel infectious disease that causes respiratory illness and death. Pediatric COVID-19 accounts for a small percentage of patients with outbreaks and is often milder than adults, but can progress to severe disease in some cases. (...)

Clin Exp Pediatr (e-date: 07/04/2020)
Choi SH, Kim HW, Kang JM, Kim DH, Cho EY
Lien original

Remdesivir, lopinavir, emetine, and homoharringtonine inhibit SARS-CoV-2 replication in vitro

An escalating pandemic by the novel SARS-CoV-2 virus is impacting global health and effective therapeutic options are urgently needed. We evaluated the in vitro antiviral effect of compounds that were previously reported to inhibit coronavirus replication and compounds that are currently under evaluation in clinical trials for SARS-CoV-2 patients. We report the antiviral effect of remdesivir, lopinavir, homorringtonine, and emetine against SARS-CoV-2 virus in Vero E6 cells with the estimated 50% effective concentration at 23.15 muM, 26.63 muM, 2.55 muM and 0.46 muM, respectively. (...)

Antiviral Res (e-date: 07/04/2020)
Choy KT, Yin-Lam Wong A, Kaewpreedee P, Sia SF, Chen D, Yan Hui KP, et al
Lien original

COVID- 19 misinformation on the internet: The other epidemy

BACKGROUND: The internet has become an important source of health information for users worldwide. The novel Coronavirus caused a pandemic search for information with broad dissemination of false or misleading health information. (...)

JMIR Public Health Surveill (e-date: 07/04/2020)
Cuan-Baltazar JY, Munoz-Perez MJ, Robledo-Vega C, Perez-Zepeda MF, Soto-Vega E
Lien original

Structural and molecular modeling studies reveal a new mechanism of action of chloroquine and hydroxychloroquine against SARS-CoV-2 infection

The recent emergence of the novel pathogenic SARS-coronavirus 2 (SARS-CoV-2) is responsible for a global pandemic. In face of the health emergency, drug repositioning is the most reliable option to design an efficient therapy for infected patients without delay. The first step of the viral replication cycle, i.e. the attachment to the surface of respiratory cells mediated by the spike (S) viral protein, offers several potential therapeutic targets. (...)

Int J Antimicrob Agents (e-date: 07/04/2020)
Fantini J, Scala CD, Chahinian H, Yahi N
Lien original

Novel Coronavirus in Cape Town Informal Settlements: Feasibility of Using Informal Dwelling Outlines to Identify High Risk Areas for COVID-19 Transmission From A Social Distancing Perspective

BACKGROUND: The challenges faced by the Global South during the coronavirus disease (COVID-19) pandemic are compounded by the presence of informal settlements, which are typically densely populated and lacking in formalized sanitation infrastructure. Social distancing measures in informal settlements may be difficult to implement due to the density and layout of settlements. (...)

JMIR Public Health Surveill (e-date: 07/04/2020)
Gibson L, Rush D
Lien original

COVID-19 in pregnancy with comorbidities: More liberal testing strategy is needed

Despite a global pandemic, reports on pregnant women with Coronavirus disease 2019 (COVID-19) are few so far, testing strategies vary substantially and management guidelines are not uniform.

Gidlof S, Savchenko J, Brune T, Josefsson H

Lien original

Internet hospitals help prevent and control the epidemic of COVID-19 in China: a multicenter user profiling study

BACKGROUND: Along with the spread of novel coronavirus disease (COVID-19), internet hospitals in China were engaged in the epidemic prevention and control, offering epidemic-related online services and medical supports to the public.(...)

Gong K, Xu Z, Cai Z, Chen Y, Wang Z

Lien original

Baseline Characteristics and Outcomes of 1591 Patients Infected With SARS-CoV-2 Admitted to ICUs of the Lombardy Region, Italy.

Importance: In December 2019, a novel coronavirus (severe acute respiratory syndrome coronavirus 2 [SARS-CoV-2]) emerged in China and has spread globally, creating a pandemic. Information about the clinical characteristics of infected patients who require intensive care is limited. Objective: To characterize patients with coronavirus disease 2019 (COVID-19) requiring treatment in an intensive care unit (ICU) in the Lombardy region of Italy.(...)

Grasselli G, Zangrillo A, Zanella A, Antonelli M, Cabrini L, Castelli A, et al.

Lien original

A comparative-descriptive analysis of clinical characteristics in 2019-Coronavirus-infected children and adults

Acute respiratory disease (ARD) caused by 2019 novel coronavirus (2019-nCoV) has rapidly spread throughout China. Children and adults show a different clinical course. The purpose of the current study is to comparatively analyze the clinical characteristics of 2019-nCoV infection in children and adults and to explore the possible causes for the discrepancies present. (...)

Han YN, Feng ZW, Sun LN, Ren XX, Wang H, Xue YM, et al

Lien original

Extracorporeal membrane oxygenation (ECMO): does it have a role in the treatment of severe COVID-19?

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has emerged since December 2019 in Wuhan city, and has quickly spread throughout China and other countries. To date, no specific treatment has been proven to be effective for SARS-CoV-2 infection. According to World Health Organization (WHO), management of coronavirus disease 19 (COVID-19) has mainly focused on infection prevention, case detection and monitoring, and supportive care.(...)

Hong X, Xiong J, Feng Z, Shi Y

Lien original

Population-Level Interest and Telehealth Capacity of US Hospitals in Response to COVID-19: Cross-Sectional Analysis of Google Search and National Hospital Survey Data

BACKGROUND: As the novel coronavirus disease (COVID-19) is widely spreading across the United States, there is a concern about the overloading of the nation's health care capacity. The expansion of telehealth services is expected to deliver timely care for the initial screening of symptomatic patients while minimizing exposure in health care facilities, to protect health care providers and other patients.(...)

Lien original

Structural Variations in Human ACE2 may Influence its Binding with SARS-CoV-2 Spike Protein

The recent pandemic of COVID-19, caused by SARS-CoV-2, is unarguably the most fearsome compared to the earlier outbreaks caused by other coronaviruses, SARS-CoV and MERS-CoV. Human ACE2 is now established as a receptor for the SARS-CoV-2 spike protein.(...)

Lien original

Neutralizing Antibodies against SARS-CoV-2 and Other Human Coronaviruses

Coronavirus (CoV) disease 2019 (COVID-19) caused by severe acute respiratory syndrome (SARS)-CoV-2 (also known as 2019-nCoV) is threatening global public health, social stability, and economic development. To meet this challenge, this article discusses advances in the research and development of neutralizing antibodies (nAbs) for the prevention and treatment of infection by SARS-CoV-2 and other human CoVs.

Lien original

Diagnostic value and dynamic variance of serum antibody in coronavirus disease 2019

OBJECTIVE: To investigate the diagnostic value of serological test and dynamitic variance of serum antibody in coronavirus disease 2019 (COVID-19). METHODS: We retrospectively included 43 patients with a laboratory-confirmed infection and 33 patients with suspected infection who were finally excluded. The IgM/IgG titer of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was measured by chemiluminescence immunoassay analysis.(...)

Lien original

Lung ultrasound and computed tomographic findings in pregnant woman with COVID-19

Imaging modalities play a crucial role in the management of suspected COVID-19-infected patients. Before reverse transcription polymerase chain reaction (RT-PCR) test results are positive, 60-93% of patients have positive chest computed tomographic (CT) findings consistent with COVID-19 infection. We report a case of positive lung ultrasound findings consistent with COVID-19 in a woman with an initial negative RT-PCR result. (...)

Lien original

Virtual screening and repurposing of FDA approved drugs against COVID-19 main protease

AIMS: In December 2019, the Coronavirus disease-2019 (COVID-19) virus has emerged in Wuhan, China. In this research, the first resolved COVID-19 crystal structure (main protease) was targeted in a virtual screening study by of FDA approved drugs dataset. In addition, a knowledge gap in relations of COVID-19 with the previously known fatal Coronaviruses (CoVs) epidemics, SARS and MERS CoVs, was covered by investigation of sequence statistics and phylogenetics.(...)
Kandeel M, Al-Nazawi M
Lien original

Spatial epidemic dynamics of the COVID-19 outbreak in China

BACKGROUND: On December 31, 2019, an outbreak of COVID-19 in Wuhan, China, was reported. The outbreak spread rapidly to other Chinese cities and to multiple countries. We describe the spatio-temporal pattern and measure the spatial association of the early stages of the COVID-19 epidemic in mainland China from January 16 to February 6, 2020.(...)
Kang D, Choi H, Kim JH, Choi J.
Lien original

Interpreting COVID-19 and Virtual Care Trends: A Call for Action

Background: The Coronavirus Disease (COVID-19) pandemic is rapidly spreading across the world. As of March 26th, 2020, there are more than 500,000 cases and more than 25,000 deaths related to COVID-19, and the number are increasing by the hour. Objective: The objective of this study was to study the trends in confirmed COVID-19 cases in North Carolina, along with understanding patterns of received virtual visits related to symptoms of COVID-19. (...)
Khairat S, Meng C, Xu Y, Edson B, Gianforcaro R
Lien original

Microneedle array delivered recombinant coronavirus vaccines: Immunogenicity and rapid translational development.

Coronaviruses pose a serious threat to global health as evidenced by Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS), and COVID-19. SARS Coronavirus (SARS-CoV), MERS Coronavirus (MERS-CoV), and the novel coronavirus, previously dubbed 2019-nCoV, and now officially named SARS-CoV-2, are the causative agents of the SARS, MERS, and COVID-19 disease outbreaks, respectively. (...)
Kim E, Erdos G, Huang S, Kenniston TW, Balmert SC, Carey CD, et al
Lien original

Severe Acute Respiratory Syndrome (SARS) and Coronavirus disease-2019 (COVID-19): From Causes to Preventions in Hong Kong

Hong Kong has been recently attacked by the coronavirus disease-2019 (COVID-19). In late January 2020, it's shown a steadily increasing trend of confirmed cases. There is a 257 in total infected cases confirmed including 4 deaths until 20(th) of March 2020. To prevent further outbreak of COVID-19, this article discusses the current understanding of COVID-19 and compares with the outbreak of SARS-CoV-2 in 2003 of Hong Kong from the causes, transmission, symptoms, diagnosis, treatments and preventions to study for an applicable measurement to control COVID-19.
Law S, Leung AW, Xu C.
Lien original

Maternal and neonatal outcomes of pregnant women with COVID-19 pneumonia: a case-control study.

he ongoing epidemics of coronavirus disease 2019 (COVID-19) have caused serious concerns about its potential adverse effects on pregnancy. There are limited data on maternal and neonatal outcomes of pregnant women with COVID-19 pneumonia.(...)

Clin Infect Dis (e-date: 07/04/2020)

Li N, Han L, Peng M, Lv Y, Ouyang Y, Liu K, et al

Lien original

Clinical characteristics of 25 death cases with COVID-19: a retrospective review of medical records in a single medical center, Wuhan, China

This study aims to summarize the clinical characteristics of death cases with COVID-19 and to identify critically ill patients of COVID-19 early and reduce their mortality. (...)

Int J Infect Dis (e-date: 07/04/2020)

Li X, Wang L, Yan S, Yang F, Xiang L, Zhu J, et al

Lien original

Critically ill patients with COVID-19 in Hong Kong: a multicentre retrospective observational cohort study.

Objective: To report the first eight cases of critically ill patients with coronavirus disease 2019 (COVID-19) in Hong Kong, describing the treatments and supportive care they received and their 28-day outcomes. Design: Multicentre retrospective observational cohort study.(...)

Crit Care Resusc (e-date: 07/04/2020)

Ling L, So C, Shum HP, Chan PKS, Lai CKC, Kandamby DH, et al

Lien original

Coronavirus Disease (COVID-19): Characteristics in children and considerations for Dentists providing their care.

The emergence of the novel virus Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV2) has caused a global pandemic called Coronavirus Disease (COVID-19) and has become one of the most significant challenges to the healthcare profession. Dental practices are focal points for cross-infection and care must be taken to minimise the risk of infection to, from, or between dental care professionals and patients. (...)

Int J Paediatr Dent. (e-date: 07/04/2020)

Mallineni SK, Innes NP, Raggio DP, Araujo MP, Robertson MD, Jayaraman J

Lien original

The enlightenment from two cases of asymptomatic infection with SARS-CoV-2: is it safe after 14 days of isolation?

From 78 laboratory-confirmed cases, we found 2 asymptomatic infections. One patient was discharged within 14 days after treatment. Another patient was discharged 25 days after treatment, and his TR-PCR test was still positive on the 15th day. We found that there may be virus carriers in asymptomatic population with epidemiological contact history.(...)

Int J Infect Dis (e-date: 07/04/2020)

Mao ZQ, Wan R, He LY, Hu YC, Chen W

Lien original

Dental journals and coronavirus disease (COVID-19): A current view

Oral Oncol (e-date: 07/04/2020)

Martelli-Junior H, Machado RA, Martelli DRB, Coletta RD

Lien original

Tracking COVID-19 in Europe: An Infodemiology Study

Infodemiology, i.e. information epidemiology, uses Web-based data in order to inform public health and policy. Infodemiology metrics have been widely and successfully employed in order to assess and forecast epidemics and outbreaks.(...)

JMIR Public Health Surveill (e-date: 07/04/2020)
Mavragani A
Lien original

An Analysis of Spatiotemporal Pattern for COIVD-19 in China based on Space-Time Cube.

This study seeks to examine and analyze the spatial and temporal patterns of COVID-19 outbreaks and identify the spatiotemporal distribution characteristics and changing trends of cases. Hence, local outlier analysis and emerging spatiotemporal hot spot analysis were performed to analyze the spatiotemporal clustering pattern and cold\hot spot trends of COVID-19 cases based on space-time cube during the period from January 23, 2020 to February 24, 2020.(...)

J Med Virol (e-date: 07/04/2020)
Mo C, Tan D, Mai T, Bei C, Qin J, Pang W, et al.
Lien original

A first Case of Meningitis/Encephalitis associated with SARS-Coronavirus-2

Novel coronavirus (SARS-Coronavirus-2:SARS-CoV-2) which emerged in Wuhan, China, has spread to multiple countries rapidly. We report the first case of meningitis associated with SARS-CoV-2 who was brought in by ambulance due to a convulsion accompanied by unconsciousness. He had never been to any foreign countries. He felt generalized fatigue and fever (day 1). He saw doctors nearby twice (day2 and 5) and was prescribed Laninamivir and antipyretic agents, His family visited his home and found that he was unconsciousness and lying on the floor in his vomit. (...)

Int J Infect Dis. (e-date: 07/04/2020)
Moriguchi T, Harii N, Goto J, Harada D, Sugawara H, Takamino J, et al
Lien original

Computational studies of drug repurposing and synergism of lopinavir, oseltamivir and ritonavir binding with SARS-CoV-2 Protease against COVID-19

A novel coronavirus (SARS-CoV-2) has caused a major outbreak in humans all over the world, and it is the latest pandemic in the series of other infectious diseases. The concept of drug repurposing has been used successfully for many years for known diseases. Considering the emergency and urgency, drug repurposing concept is being explored for coronavirus disease (COVID-19) as well. (...)

J Biomol Struct Dyn (e-date: 07/04/2020)
Muralidharan N, Sakthivel R, Velmurugan D, Gromiha MM
Lien original

Emergency Restructuring of a General Surgery Residency Program During the Coronavirus Disease 2019 Pandemic: The University of Washington Experience

Seattle, Washington, is an epicenter of the coronavirus disease 2019 epidemic in the United States. In response, the Division of General Surgery at the University of Washington Department of Surgery in Seattle has designed and implemented an emergency restructuring of the facility's general surgery resident care teams in an attempt to optimize workforce well-being, comply with physical distancing requirements, and continue excellent patient care. (...)

JAMA Surg (e-date: 07/04/2020)
Nassar AH, Zern NK, McIntyre LK, Lynge D, Smith CA, Petersen RP, et al
Lien original

Macrolide treatment for COVID-19: Will this be the way forward?

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic that has developed in late 2019 and 2020 is a serious threat to human health. With no vaccines or drugs approved for prevention and treatment until now, all efforts at drug design and/or clinical trials of already approved drugs are worthy and creditable. (...)

Ohe M, Shida H, Jodo S, Kusunoki Y, Seki M, Furuya K, et al
Lien original

Conducting Clinical Research During the COVID-19 Pandemic: Investigator and Participant Perspectives

As the medical landscape changes daily with the coronavirus disease (COVID-19) pandemic, clinical researchers are caught off-guard and are forced to make decisions on research visits in their ongoing clinical trials. Although there is some guidance from local and national organizations, the principal investigator (PI) is ultimately responsible for determining the risk-benefit ratio of conducting, rescheduling, or cancelling each research visit. (...)

Padala PR, Jendro AM, Padala KP
Lien original

Impact of the COVID-19 pandemic on Parkinson's disease and movement disorders.

Papa SM, Brundin P, Fung VSC, Kang UJ, Burn DJ, Colosimo C, et al.
Lien original

Epidemiology, virology, and clinical features of severe acute respiratory syndrome -coronavirus-2 (SARS-CoV-2; Coronavirus Disease-19)

A cluster of severe pneumonia of unknown etiology in Wuhan City, Hubei province in China emerged in December 2019. A novel coronavirus named severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) was isolated from lower respiratory tract sample as the causative agent. (...)

Park SE
Lien original

Residency and Fellowship Program Accreditation: Effects of the Novel Coronavirus (COVID-19) Pandemic

The United States is now in the grip of pandemic. Surgical services have been severely disrupted and will be for at least several months. The pandemic poses unprecedented challenges to surgical residency and fellowship programs. In turn, there are unprecedented challenges to the process of accrediting those programs. This article delineates some of those challenges and the responses to them which are known, to date.

Potts JR, 3rd
Lien original

COVID-19 and Urology: A Comprehensive Review of the Literature.

Covid-19 pandemic is the newest and biggest global health threat worldwide. Medical and surgical priorities were changed dramatically at the time of this pandemic. Postponement for all outpatient and elective activities to save facilities and resources for urgent cases and Covid-19 patients was adopted by most of hospitals in the affected countries.(...)

Puliatti S, Eissa A, Eissa R, Amato M, Mazzone E, Dell'Oglio P, et al

Potential harmful effects of discontinuing ACE-inhibitors and ARBs in COVID-19 patients

The discovery that SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2) RNA binds to the angiotensin converting enzyme (ACE)-2, which is highly expressed in the lower airways, explained why SARS-CoV-2 causes acute respiratory distress syndrome (ARDS) and respiratory failure. After this, news spread that ACEis and ARBs would be harmful in SARS-CoV-2-infected subjects. (...)

Elife (e-date: 07/04/2020)
Rossi GP, Sanga V, Barton M

One proline deletion in the fusion peptide of neurotropic mouse hepatitis virus (MHV) restricts retrograde axonal transport and neurodegeneration

Mouse hepatitis virus (MHV; murine coronavirus [M-CoV]) causes meningoencephalitis, myelitis, and optic neuritis followed by axonal loss and demyelination. This murine virus is used as a common model to study both acute and chronic virus-induced demyelination in the central nervous system. Studies with recombinant MHV strains that differ in the gene encoding the spike protein have demonstrated that the spike has a role in both MHV pathogenesis and retrograde axonal transport. (...)

J Biol Chem (e-date: 07/04/2020)
Rout SS, Singh M, Shindler KS, Das Sarma J

Triage Considerations for Patients Referred for Structural Heart Disease Intervention During the Coronavirus Disease 2019 (COVID-19) Pandemic: An ACC /SCAI Consensus Statement

The COVID-19 pandemic has strained health care resources around the world causing many institutions to curtail or stop elective procedures. This has resulted in the inability to care for patients valvular and structural heart disease (SHD) in a timely fashion potentially placing these patients at increased risk for adverse cardiovascular complications including congestive heart failure and death. (...)

Catheter Cardiovasc Interv (e-date: 07/04/2020)
Shah PB, Welt FGP, Mahmud E, Phillips A, Kleiman NS, Young MN, et al

COVID-19 and liver disease.

Since December 2019, patients with unexplained pneumonia have been found in Wuhan, Hubei Province, China, which was caused by a novel coronavirus that had not been previously identified (1). Tentatively defined as 2019 novel coronavirus (2019-nCoV), the pathogen has now been named Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) (2), while the disease termed Coronavirus Disease 2019 (COVID-19).

Liver Int (e-date: 07/04/2020)
Sun J, Aghemo A, Forner A, Valenti L

China empowers Internet hospital to fight against COVID-19

J Infect (e-date: 07/04/2020)
Sun S, Yu K, Xie Z, Pan X

The cardiovascular burden of coronavirus disease 2019 (COVID-19) with a focus on congenital heart disease

Coronavirus disease 2019 (COVID-19), caused by a novel betacoronavirus severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was first described in a cluster of patients presenting with pneumonia symptoms in Wuhan, China, in December of 2019. Over the past few months, COVID-19 has developed into a worldwide pandemic, with over 400,000 documented cases globally as of March 24, 2020. (...)

Tan W, Aboulhosn J.
Lien original

Coronavirus Disease 2019 (COVID-19): Considerations for the Competitive Athlete

Toresdahl BG, Asif IM.
Lien original

Strategy for the practice of digestive and oncological surgery during the Covid-19 epidemic.

The Covid-19 pandemic is changing the organization of healthcare and has a direct impact on digestive surgery. Healthcare priorities and circuits are being modified. Emergency surgery is still a priority. Functional surgery is to be deferred. Laparoscopic surgery must follow strict rules so as not to expose healthcare professionals (HCPs) to added risk. The question looms large in cancer surgery-go ahead or defer? There is probably an added risk due to the pandemic that must be balanced against the risk incurred by deferring surgery. (...)

Tuech JJ, Gangloff A, Di Fiore F, Michel P, Brigand C, Slim K, et al
Lien original

Life in the pandemic: Social isolation and mental health

Quarantine or physical isolation, used for centuries to contain the spread of infection, isolates those who have (or may have) been infected by a contagious disease to control or limit contamination. The COVID-19, a novel coronavirus first reported in Wuhan, China in late 2019, has rapidly spread across the globe becoming a pandemic.(...)

Usher K, Bhullar N, Jackson D
Lien original

Clinical characteristics of non-critically ill patients with novel coronavirus infection (COVID-19) in a Fangcang Hospital

Describe the clinical characteristics of patients in Fangcang Hospital. METHODS: Non-critically ill patients with positive SARS-CoV-2 RT-PCR tests admitted to Dongxihu 'Fangcang' Hospital between February 7th and 12th were included, which was promptly constructed because of the rapid, exponential increase in COVID-19 patients in Wuhan, China; clinical course through February 22nd was recorded. (...)

Wang X, Fang J, Zhu Y, Chen L, Ding F, Zhou R, et al
Lien original

COVID-19 Pandemic: Staged Management of Surgical Services for Gynecology and Obstetrics

The COVID-19 pandemic has required an unprecedented global healthcare response requiring maintenance of existing hospital-based services while simultaneously preparing for high-acuity care for infected and sick individuals. Hospitals must protect patients and the diverse healthcare workforce by conserving personal protective equipment and redeployment of facility resources.(...)

Weber Lebrun EE, Moawad NS, Rosenberg EI, Morey TE, Davies L, Collins WO, et al.
Lien original

How to deal with 2019 novel coronavirus (COVID-19): a public health practice from the Centers for Disease Control and Prevention in Zhanggong District, Ganzhou City, China
Infect Control Hosp Epidemiol (e-date: 07/04/2020)
Xiong P, Xu K.
Lien original

Utilization of a mobile platform for the dissemination of validated institutional measurements during CoVid-19 Outbreak: A practical example in the Children's Hospital
As part of response plans for current outbreak of SARS-CoV-2, authorities are drafting and implementing containment measures across jurisdictions worldwide in the effort to slow transmission and infection rate. A solid communication strategy is needed to increase the reach of valid information to health professionals, reduce misinformation, and efficiently implement recommended measures. (...)
JMIR Public Health Surveill (e-date: 07/04/2020)
Zamberg I, Manzano S, Posfay-Barbe K, Windisch O, Agoritsas T, Schiffer E
Lien original

A potential protective role of losartan against coronavirus-induced lung damage
Infect Control Hosp Epidemiol (e-date: 07/04/2020)
Zeinalian M, Salari-Jazi A, Jannesari A, Khanahmad H.
Lien original

Identification of Kidney Transplant Recipients with Coronavirus Disease 2019
Coronavirus disease 2019 (COVID-19) is a novel and lethal infectious disease, posing a threat to global health security. The number of cases has increased rapidly, but no data concerning kidney transplant (KTx) recipients infected with COVID-19 are available.(...)
Eur Urol (e-date: 07/04/2020)
Zhang H, Chen Y, Yuan Q, Xia QX, Zeng XP, Peng JT, et al.
Lien original

Recommendations for respiratory rehabilitation in adults with COVID-19
Coronavirus disease-2019 (COVID-19) is a highly infectious respiratory disease that leads to respiratory, physical, and psychological dysfunction in patients. Respiratory rehabilitation is an important intervention as well as cure for clinical patients. With increased understanding of COVID-19 and the accumulation of clinical experience, we proposed recommendations for respiratory rehabilitation in adults with COVID-19 based on the opinions of frontline clinical experts involved in the management of this epidemic and a review of the relevant literature and evidence.(...)
Chin Med J (Engl) (e-date: 07/04/2020)
Zhao HM, Xie YX, Wang C.
Lien original

Recommendations and guidance for providing pharmaceutical care services during COVID-19 pandemic: A China perspective
The novel coronavirus pneumonia (COVID-19), which was first detected in Wuhan City, has now became a pandemic that affecting patients around the world. Particularly, the community patient population are at high risk of infection and are facing potential failure of proper medication use during the pandemic.(...)

Lien original

ARTICLES EN ESPAGNOL

Protocol against coronavirus diseases in patients on renal replacement therapy: Dialysis and kidney transplant

Lien original

[Coronavirus infection (COVID-19) in Anales de Pediatria]

Lien original

PREPRINTS

Information Mining for COVID-19 Research From a Large Volume of Scientific Literature

The year 2020 has seen an unprecedented COVID-19 pandemic due to the outbreak of a novel strain of coronavirus in 180 countries. In a desperate effort to discover new drugs and vaccines for COVID-19, many scientists are working around the clock. Their valuable time and effort may benefit from computer-based mining of a large volume of health science literature that is a treasure trove of information. (...)

Lien original

Accounting for Symptomatic and Asymptomatic in a SEIR-type model of COVID-19

A mathematical model was developed describing the dynamic of the COVID-19 virus over a population considering that the infected can either be symptomatic or not. The model was calibrated using data on the confirmed cases and death from several countries like France, Philippines, Italy, Spain, United Kingdom, China, and the USA. First, we derived the basic reproduction number, $\mathcal{R}_0$ and estimated the effective reproduction $\mathcal{R}_{\rm eff}$ for each countries. Second, we were interested in the merits of containment. (...)

Lien original

Modelling death rates due to COVID-19: A Bayesian approach

Objective: To estimate the number of deaths in Peru due to COVID-19. Design: With a priori information obtained from the daily number of deaths due to CODIV-19 in China and data from the Peruvian authorities, we constructed a predictive Bayesian non-linear model for the number of deaths in Peru. Exposure: COVID-19.(...)

COVID-19: Strategies for Allocation of Test Kits

With the increasing spread of COVID-19, it is important to systematically test more and more people. The current strategy for test- kit allocation is mostly rule-based, focusing on individuals having (a) symptoms for COVID-19, (b) travel history or (c) contact history with confirmed COVID-19 patients. Such testing strategy may miss out on detecting asymptomatic individuals who got infected via community spread. (...)

How to reduce epidemic peaks keeping under control the time-span of the epidemic

One of the main challenges of the measures against the COVID-19 epidemic is to reduce the amplitude of the epidemic peak without increasing without control its timescale. We investigate this problem using the SIR model for the epidemic dynamics, for which reduction of the epidemic peak I_P can be achieved only at the price of increasing the time t_P of its occurrence and its entire time-span t_E. By means of a time reparametrization we linearize the equations for the SIR dynamics. (...)

A mathematical model for the coronavirus COVID-19 outbreak

A new mathematical model is proposed for quantitative description of the outbreak of novel coronavirus COVID-19 in China. Although the model is relatively simple, the comparison with the public data show that the analytical solution of the model (with the correctly-specified parameters) leads to the results, which are in good agreement with the measured data.

Neural Network aided quarantine control model estimation of global Covid-19 spread

ince the first recording of what we now call Covid-19 infection in Wuhan, Hubei province, China on Dec 31, 2019, the disease has spread worldwide and met with a wide variety of social distancing and quarantine policies. The effectiveness of these responses is notoriously difficult to quantify as individuals travel, violate policies deliberately or inadvertently, and infect others without themselves being detected. (...)

Identifying highly influential travellers for spreading disease on a public transport system

The recent outbreak of a novel coronavirus and its rapid spread underlines the importance of understanding human mobility. Enclosed spaces, such as public transport vehicles (e.g. buses and trains), offer a suitable environment for infections to spread widely and quickly. Investigating the movement patterns and the physical encounters of individuals on public transit systems is thus critical to understand the drivers of infectious disease outbreaks. (...)

El Shoghri A, Liebig J, Jurdak R, Gardner L, Kanhere SS. Identifying highly influential travellers for spreading disease on a public transport system. arXiv e-prints

Robustness analysis in an inter-cities mobility network: modeling municipal, state and federal initiatives as failures and attacks

Motivated by the challenge related to the COVID-19 epidemic and the seek for optimal containment strategies, we present a robustness analysis into an inter-cities mobility complex network. We abstract municipal initiatives as nodes' failures and the federal actions as targeted attacks. (...)

Temporal rise in the proportion of younger adults and older adolescents among COVID-19 cases in Germany: evidence of lesser adherence to social distancing practices?

Background: There is uncertainty about the role of different age groups in propagating the SARS-CoV-2 epidemics in different countries. Methods: We used the Koch Institute data on COVID-19 cases in Germany. To minimize the effect of changes in healthcare seeking behavior and testing practices, we included the following 5-year age groups in the analyses: 10-14y through 45-49y. (...)

Different scenarios in the Dynamics of SARS-Cov-2 Infection: an adapted ODE model

This paper improves this model in order to study the effect of different scenarios that include actions to contain the pandemic, such as isolation and quarantine of infected and at-risk people. Comparisons made between the different scenarios show that the progress of the infection is found to strongly depend on measures taken in each case. (...)

Generating Similarity Map for COVID-19 Transmission Dynamics with Topological Autoencoder

At the beginning of 2020 the world has seen the initial outbreak of COVID-19, a disease caused by SARS-CoV2 virus in China. The World Health Organization (WHO) declared this disease as a pandemic on March 11 2020. As the disease spread globally, it becomes difficult to tract the transmission dynamics of this disease in all countries, as they may differ in geographical, demographic and strategical aspects.(...)

Metropolitan-scale COVID-19 outbreaks: how similar are they?

In this study, we use US county-level COVID-19 case data from January 21-March 25, 2020 to study the exponential behavior of case growth at the metropolitan scale. In particular, we assume that all localized outbreaks are in an early stage (either undergoing exponential growth in the number of cases, or are effectively contained) and compare the explanatory performance of different simple exponential and linear growth models for different metropolitan areas. (...)

COVID-19: Analytics Of Contagion On Inhomogeneous Random Social Networks

Motivated by the need for novel robust approaches to modelling the Covid-19 epidemic, this paper treats a population of N individuals as an inhomogeneous random social network (IRSN). The nodes of the network represent different types of individuals and the edges represent significant social relationships.(...)

The impact of multilateral imported cases of COVID-19 on the epidemic control in China

Nowadays, the epidemic of COVID-19 in China is under control. However, the epidemic are developing rapidly around the world. Due to the normal migration of population, China is facing high risk from imported cases. The potential specific medicine and vaccine is still in the process of clinical trials.(...)

Estimating SARS-CoV-2-positive Americans using deaths-only data

We fit a Bayesian model to data on the number of deaths attributable to COVID-19 with the goal of estimating the number of infected individuals. Our model links an underlying Susceptible Infectious Removed (SIR) model of disease dynamics to observed deaths via a time-to-death distribution informed by previous studies.(...)

Analysis of the evolution of the Sars-Cov-2 in Italy, the role of the asymptomatics and the success of Logistic model

In this letter we study the temporal evolution of the Sars-Cov-2 in Italy. The time window of the real data is between February 24 and March 25. After we upgrade the data until April 1.We perform the analysis with 4 different model and we think that the best candidate to describe correctly the italian situation is a generalized Logistic equation. We use two coupled differential equations that describe the evolution of the severe infected and the deaths.(...)

An alternating lock-down strategy for sustainable mitigation of COVID-19

Lacking a drug or vaccine, our current strategy to contain the COVID-19 pandemic is by means of social distancing, specifically mobility restrictions and lock-downs. Such measures impose a hurtful toll on the economy, and are difficult to sustain for extended periods. The challenge is that selective isolation of the sick, an often viable and effective strategy, is insufficient against COVID-19, due to its relatively long incubation period, in which exposed individuals experience no symptoms, but still contribute to the spread.(...)

Analyzing the World-Wide Impact of Public Health Interventions on the Transmission Dynamics of COVID-19

We analyze changes in the reproduction number, R, of COVID-19 in response to public health interventions. Our results indicate that public health measures undertaken in China reduced R from 1.5 in January to 0.4 in mid-March 2020. They also suggest, however, the limitations of isolation, quarantine, and large-scale attempts to limit travel. While the world-wide reproduction number briefly dropped below 1 as China implemented extensive public health measures, the introduction of the virus to other nations swiftly led to an increasing world-wide average value of R. In Italy, the nation hardest-hit following China, social distancing measures brought the local value of R down from 3.71 to 2.51.(...)

Mohler G, Schoenberg F, Short MB, Sledge D
Lien original

Optimal, near-optimal, and robust epidemic control

The COVID-19 pandemic has highlighted the need for control measures that reduce the epidemic peak ("flattening the curve"). Here we derive the optimal time-limited intervention for reducing peak epidemic prevalence in the standard Susceptible-Infectious-Recovered (SIR) model.(...)

Morris DH, Rossine FW, Plotkin JB, Levin SA
Lien original

Regression Approach for Modeling COVID-19 Spread and its Impact On Stock Market.

The paper studies different regression approaches for modeling COVID-19 spread and its impact on the stock market. The logistic curve model was used with Bayesian regression for predictive analytics of the coronavirus spread. The impact of COVID-19 was studied using regression approach and compared to other crises influence. In practical analytics, it is important to find the maximum of coronavirus cases per day, this point means the estimated half time of coronavirus spread in the region under investigation.(...)

Pavlyshenko BM
Lien original

A Novel Methodology for Epidemic Risk Assessment: the case of COVID-19 outbreak in Italy

We present a novel methodology in order to perform the epidemic risk assessment in terms of different factors which are useful to understand the different impact of an epidemic in different areas of a country. In particular we discuss the case of COVID-19 outbreak in Italy. We characterize each region of Italy by considering the available data on air pollution, mobility, winter temperature, housing concentration, health care density, total and aged population.(...)

Pluchino A, Inturri G, Rapisarda A, Biondo AE, Le Moli R, Zappala' C, et al
Lien original

A decision support system for optimizing the cost of social distancing in order to stop the spread of COVID-19

Currently there are many attempts around the world to use computers, smartphones, tablets and other electronic devices in order to stop the spread of COVID-19. Most of these attempts focus on collecting information about infected people, in order to help healthy people avoid contact with them. However, social distancing decisions are still taken by the governments empirically. (...)

Popa A

SEIAR model with asymptomatic cohort and consequences to efficiency of quarantine government measures in COVID-19 epidemic

We present a compartmental SEIAR model of epidemic spread as a generalization of the SEIR model. We believe that the asymptomatic infectious cohort is an omitted part of the understanding of the epidemic dynamics of disease COVID-19. We introduce and derive the basic reproduction number as the weighted arithmetic mean of the basic reproduction numbers of the symptomatic and asymptomatic cohorts. Since the asymptomatic subjects people are not detected, they can spread the disease much longer, and this increases the COVID-19 R_0 up to around 9.(...)

arXiv (e-date: 07/04/2020)

Pribylova L, Hajnova V

Model studies on the COVID-19 pandemic in Sweden

We study the increases of infections and deaths in Sweden caused by COVID-19 with several different models: Firstly an analytical susceptible-infected (SI) model and the standard susceptible-infected- recovered (SIR) model. Then within the SIR framework we study the susceptible-infected-deceased (SID) correlations.(...)

rXiv (e-date: 07/04/2020)

Qi C, Karlsson D, Sallmen K, Wyss R

Analysis of the COVID 19 outbreak timeline in New York State counties.

We illustrate and study the evolution of reported infections over the month from March 1st to April 1st in the New York State as a whole, as well as in each individual county. We search for exponential trends, and try to understand whether there is any correlation of the timing and dynamics of these trends with state mandated measures on social distancing and testing.(...)

arXiv (e-date: 07/04/2020)

Radulescu A

ayesian semiparametric time varying model for count data to study the spread of the COVID-19 cases

Recent outbreak of the novel corona virus COVID-19 has affected all of our lives in one way or the other. While medical researchers are working hard to find a cure and doctors/nurses to attend the affected individuals, measures such as `lockdown', `stay-at-home', `social distancing' are being implemented in different parts of the world to curb its further spread. (...)

arXiv (e-date: 07/04/2020)

Roy A, Karmakar S

Using generalized logistics regression to forecast population infected by Covid-19

In this work, a proposal to forecast the populations using generalized logistics regression curve fitting is presented. This type of curve is used to study population growth, in this case population of people infected with the Covid-19 virus; and it can also be used to approximate the survival curve used in actuarial and similar studies.

arXiv (e-date: 07/04/2020)

Villalobos-Arias M

The Framework for the Prediction of the Critical Turning Period for Outbreak of COVID-19 Spread in China based on the iSEIR Model

The goal of this study is to establish a general framework for predicting the so-called critical Turning Period in an infectious disease epidemic such as the COVID-19 outbreak in China early this year. This framework enabled a timely prediction of the turning period when applied to Wuhan COVID-19 epidemic and informed the relevant authority for taking appropriate and timely actions to control the epidemic. (...)

The Twitter Social Mobility Index: Measuring Social Distancing Practices from Geolocated Tweets

Social distancing is an important component of the response to the novel Coronavirus (COVID-19) pandemic. Minimizing social interactions and travel reduces the rate at which the infection spreads, and "flattens the curve" such that the medical system can better treat infected individuals. However, it remains unclear how the public will respond to these policies.(...)

COVID-19: Development of A Robust Mathematical Model and Simulation Package with Consideration for Ageing Population and Time Delay for Control Action and Resusceptibility

The current global health emergency triggered by the COVID-19 pandemic is one of the greatest challenges mankind face in this generation. Computational simulations have played an important role to predict the development of the current pandemic. (...)

COVID-19: Should We Test Everyone?

Since the beginning of 2020, the coronavirus disease 2019 (COVID-19) has spread rapidly in the city of Wuhan, P.R. China, and subsequently, across the world. The swift spread of the virus is largely attributed to its stealth transmissions in which infected patients may be asymptomatic. Undetected transmissions present a remarkable challenge for the containment of the virus and pose an appalling threat to the public.(...)

Generic probabilistic modelling and non-homogeneity issues for the UK epidemic of COVID-19

Coronavirus COVID-19 spreads through the population mostly based on social contact. To gauge the potential for widespread contagion, to cope with associated uncertainty and to inform its mitigation, more accurate and robust modelling is centrally important for policy making.(...)

Noisy Pooled PCR for Virus Testing

Fast testing can help mitigate the coronavirus disease 2019 (COVID-19) pandemic. Despite their accuracy for single sample analysis, infectious diseases diagnostic tools, like RT-PCR, require substantial resources to test large populations. We develop a scalable approach for determining the viral status of pooled patient samples. Our approach converts group testing to a linear inverse problem, where false positives and

negatives are interpreted as generated by a noisy communication channel, and a message passing algorithm estimates the illness status of patients. (..)

Zhu J, Rivera K, Baron D
Lien original

Analysis of the COVID-19 pandemic by SIR model and machine learning technics for forecasting

This work is a trial in which we propose SIR model and machine learning tools to analyze the coronavirus pandemic in the real world. Based on the public data from \cite{datahub}, we estimate main key pandemic parameters and make predictions on the inflection point and possible ending time for the real world and specifically for Senegal. (...)

Mbaye Ndiaye B, Tendeng L, Seck D
Lien original

Modeling risk of infectious diseases: a case of Coronavirus outbreak in four countries

Background The novel coronavirus (2019-nCOV) outbreak has been a serious concern around the globe. Since people are in tremor due to the massive spread of Coronavirus in the major parts of the world, it requires to predict the risk of this infectious disease. In this situation, we develop a model to measure the risk of infectious disease and predict the risk of 2019-nCOV transmission by using data of four countries - United States, Australia, Canada and China. (...)

Islam MM, Islam MM, Hossain MJ, Ahmed F
Lien original

Assessment of Specimen Pooling to Conserve SARS CoV-2 Testing Resources

Importance The United States is experiencing an acute shortage of reagents important for performance of assays for the detection of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the causative agent of COVID-19 in clinical specimens. Objective To determine whether saving in reagents for detection of SARS CoV-2 can be accomplished using the optimal parameters for group testing of pooled specimens in a public health laboratory.

Abdalhamid B, Bilder CR, McCutchen EL, Hinrichs SH, Koepsell SA, Iwen PC
Lien original

Acute liver injury and its association with death risk of patients with COVID-19: a hospital-based prospective case-cohort study

Background: Coronavirus disease 2019 (COVID-19) is a newly respiratory infectious disease caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) with multiple organ injuries. The aim of this study was to analyze SARS-CoV-2-induced acute liver injury (ALI), its association with death risk and prognosis after discharge. Methods: Three-hundred and fifty-five COVID-19 patients were recruited. Clinical data were collected from electronic medical records. ALI was evaluated and its prognosis was tracked. (...)

Fu L, Fei J, Xu S, Xiang H-X, Xiang Y, Tan Z-X, et al
Lien original

Patient-collected tongue, nasal, and mid-turbinate swabs for SARS-CoV-2 yield equivalent sensitivity to health care worker collected nasopharyngeal swabs

Background: Current testing for SARS-CoV-2 requires health care workers to collect a nasopharyngeal (NP) sample from a patient. NP sampling requires the use of personal protective equipment that are in limited supply, is uncomfortable for the patient, and reduces clinical efficiency. This study explored the equivalency of patient-collected tongue, anterior nares (nasal), and mid-turbinate (MT) samples to health care worker-collected NP samples for detecting SARS-CoV-2. (...)

medRxiv (e-date: 06/04/2020)
Tu Y-P, Jennings R, Hart B, Cangelosi G, Wood R, Wehber K, et al
Lien original

COVID19-Tracker: A shiny app to produce comprehensive data visualization for SARS-CoV-2 epidemic in Spain

Data visualization is an important tool for exploring and communicating findings in medical research, and specially in epidemiological surveillance. The COVID19-Tracker app systematically produces daily updated data visualization and analysis of SARS-CoV-2 epidemic in Spain. It collects automatically daily data on COVID-19 diagnosed cases, intensive care unit admissions, and mortality, from February 24th, 2020 onwards. (...)

medRxiv (e-date: 06/04/2020)
Tobias A, Valls J, Satorra P, Tebe C
Lien original

Reduction of lymphocyte at early stage elevates severity and death risk of COVID-19 patients: a hospital-based case-cohort study

Background and objective: Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2)-induced coronavirus disease 2019 (COVID-19) has been pandemic worldwide. Several reports observed a reduction of lymphocytes among COVID-19 patients. However, clinical significance of lymphocyte reduction in COVID-19 patients remains unclear. The objective of this study was to analyze the association between lymphocyte reduction at early stage and the prognosis of COVID-19 patients. (...)

medRxiv (e-date: 06/04/2020)
Fei J, Fu L, Li Y, Xiang H-X, Xiang Y, Li M-D, et al
Lien original

The effect of non-pharmaceutical interventions on COVID-19 cases, deaths and demand for hospital services in the UK: a modelling study

Background Non-pharmaceutical interventions have been implemented to reduce transmission of SARS-CoV-2 in the UK. Projecting the size of an unmitigated epidemic and the potential effect of different control measures has been critical to support evidence-based policymaking during the early stages of the epidemic. Methods We used a stochastic age-structured transmission model to explore a range of intervention scenarios, including the introduction of school closures, social distancing, shielding of elderly groups, self-isolation of symptomatic cases, and extreme "lockdown"-type restrictions. (...)

medRxiv (e-date: 06/04/2020)
Davies NG, Kucharski AJ, Eggo RM, Gimma A, Edmunds WJ
Lien original

Therapeutic Management of COVID-19 Patients: A systematic review

Background: SARS-CoV-2 is the cause of the COVID-19 that has been declared a global pandemic by the WHO in 2020. The COVID-19 treatment guidelines vary in each country, and yet there is no approved therapeutic for COVID-19. Aims of the study: this review aimed to report any evidence of therapeutics used for the management of COVID-19 patients in clinical practice since the emergence of the virus. Methods: A systematic review protocol was developed based on PRISMA Statement. (...)

medRxiv (e-date: 06/04/2020)

Tobaiqy M, Qashqary M, Al-Dahery S, Mujallad A, Hershan AA, Kamal MA, et al
Lien original

Confronting COVID-19: Surging critical care capacity in Italy

The current spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in Europe threats Italian capacity and that of other national health systems to effectively respond to the needs of patients who require intensive care, mostly due to pneumonia and derived complications from concomitant disease and age. Predicting the surge in capacity has proved difficult due to the requirement of a subtle combination of diverse expertise and difficult choices to be made on selecting robust measures of critical care utilization, and parsimonious epidemic modelling which account for changing government measures. (...)

Rodriguez Llanes JM, Castro Delgado R, Pedersen MG, Arcos Gonzalez P, Meneghini M
Lien original

Public perspectives on social distancing and other protective measures in Europe: a cross-sectional survey study during the COVID-19 pandemic

Objectives: The extent to which people implement government-issued protective measures is critical in preventing further spread of coronavirus disease 2019 (COVID-19) caused by coronavirus SARS-CoV-2. Our study aimed to evaluate the public belief in the effectiveness of protective measures, the reported implementation of these measures in daily life, and to identify communication channels used to acquire relevant information on COVID-19 in European countries. Design: A cross-sectional online survey available in multiple languages was disseminated on social media starting March 19th, 2020. (...)

Meier K, Glatz T, Guijt MC, Piccininni M, van der Meulen M, Atmar K, et al
Lien original

Exponential phase of covid19 expansion is not driven by climate at global scale

The pandemic state of COVID-19 caused by the SARS CoV-2 put the world in quarantine and is causing an unprecedented economic crisis. However, COVID-19 is spreading in different rates at different countries. Here, we tested the effect of three classes of predictors, i.e., socioeconomic, climatic and transport, on the rate of daily increase of COVID-19. We found that global connections, represented by countries importance in the global air transportation network, is the main explanation for the growth rate of COVID-19 in different countries. (...)

Coelho MTP, Rodrigues JFM, Medina AM, Scalco P, Terribile LC, Vilela B, et al
Lien original

Synchronized travel restrictions across cities can be effective in COVID-19 control

Mobility control measures are of crucial importance for public health planning in combating the COVID-19 pandemic. Previous studies established the impact of population outflow from Wuhan on the spatial spread of coronavirus in China and hinted the impact of the other three mobility patterns, i.e., population outflow from Hubei province excluding Wuhan, population inflow from cities outside Hubei, and intra-city population movement. However, the overall impact of all mobility patterns, or the impact of the different timing of mobility restriction intervention, are not systematically analyzed. (...)

Liu H, Bai X, Shen H, Pang X, Liang Z, Liu Y
Lien original

Capacities and predicted demands of Brazil's health system in view of the novel coronavirus disease outbreak

The aim of this work is to estimate capacities of Brazil's health system and their demand as a result of predicted incoming severe cases of the novel coronavirus disease (COVID-19) outbreak. Three incrementing levels of hospital equipment usage are considered: (1) in terms of available intensive care unit (ICU) beds; (2) available ICU beds and existing surgery operating rooms; and (3) available ICU beds and existing surgery operating rooms and respirators located in other hospital areas. (...)

medRxiv (e-date: 06/04/2020)
Cavalcante ELB, Ferreira JCC
Lien original

A Contribution to the Mathematical Modeling of the Corona/COVID-19 Pandemic

Using data from the Johns Hopkins University and the German Robert-Koch-Institut on the ongoing coronavirus pandemic, we discuss the applicability of W. O. Kermack and A. G. McKendrick's SIR model including strategies for the commencing and ending of social and economic shutdown measures. The numerical solution of the ordinary differential equation system of the modified SIR model is being done with a Runge-Kutta integration method of fourth order. (...)

medRxiv (e-date: 06/04/2020)
Baerwolff GKF
Lien original

Estimation of the probability of reinfection with COVID-19 coronavirus by the SEIRUS model

With sensitivity of the Polymerase Chain Reaction (PCR) test used to detect the presence of the virus in the human host, the global health community has been able to record a great number of recovered population. Therefore, in a bid to answer a burning question of reinfection in the recovered class, the model equations which exhibits the disease-free equilibrium (E_0) state for COVID-19 coronavirus was developed in this study and was discovered to both exist as well as satisfy the criteria for a locally or globally asymptotic stability with a basic reproductive number $R_0=0$ for and endemic situation. (...)

medRxiv (e-date: 06/04/2020)
Victor AO
Lien original

Global epidemiology, pathogenesis, immune response, diagnosis, treatment, economic and psychological impact, challenges, and future prevention of COVID-19: A scoping review

Background: Globally, the novel coronavirus, is a public health problem causing respiratory infections. Since the outbreak of severe acute and Middle East respiratory syndromes coronavirus was not reported to cause human infections. Now, it become an epidemic proportion with growing number of cases and deaths. Methods: A scoping review was conducted following the methodological framework. (...)

medRxiv (e-date: 06/04/2020)
Berhe B, Legese H, Degefa H, Adhanom G, Gebrewahd A, Mardu F, et al
Lien original

Flattening the curve before it flattens us: hospital critical care capacity limits and mortality from novel coronavirus (SARS-CoV2) cases in US counties

Background As of March 26, 2020, the United States had the highest number of confirmed cases of Novel Coronavirus (COVID-19) of any country in the world. Hospital critical care is perhaps the most important medical system choke point in terms of preventing deaths in a disaster scenario such as the current COVID-19

pandemic. We therefore brought together previously established disease modeling estimates of the growth of the COVID-19 epidemic in the US under various social distancing contact reduction assumptions, with local estimates of the potential critical care surge response across all US counties. (...)

Lien original

Pre-outbreak determinants of perceived risks of corona infection and preventive measures taken. A prospective population-based study

Objectives. Assess how people perceive the risks of coronavirus infection, whether people take preventive measures, and which (pre-outbreak) factors contribute to the perceived risks and measures taken, such as (pre-outbreak) respiratory problems, heart problems, diabetes, anxiety and depression symptoms, loneliness, age, gender, marital status and education level. Methods. Data were collected in the longitudinal LISS panel, based on a random sample of the Dutch population. (...)

Lien original

Perceived vulnerability to COVID-19 infection from event attendance: Results from Louisiana, USA, two weeks preceding the national emergency declaration

In response to the mounting threat of COVID-19, we added questions to an ongoing food preference study held at Louisiana State University from March 3-12 of 2020. We asked 356 participants: (1) In your opinion, how likely is it that the spread of COVID-19 (the coronavirus) will cause a public health crisis in the United States? (2) How concerned are you that you will contract COVID-19 by attending events on campus? Participants' estimates of an impending national health crisis increased significantly during the study's second week (March 9-12) while concern about personally contracting COVID-19 from attending campus events increased only marginally during the study's final days. (...)

Lien original

No indications for overt innate immune suppression in critically ill COVID-19 patients

At the end of March 2020, there were in excess of 800.000 confirmed cases of coronavirus disease 2019 (COVID-19) worldwide. Several reports suggest that, in severe cases, COVID-19 may cause a hyperinflammatory 'cytokine storm'. However, unlike SARS-CoV infection, high levels of anti-inflammatory mediators have also been reported in COVID-19 patients. One study reported that 16% of COVID-19 patients who died developed secondary infection, which might indicate an immune-suppressed state. (...)

Lien original

Using network science to propose strategies for effectively dealing with pandemics: The COVID-19 example

The global spread of Coronavirus Disease 2019 (COVID-19) is overwhelming many health-care systems. As a result, epidemiological models are being used to inform policy on how to effectively deal with this pandemic. We note that the majority of existing models do not take into account differences in the amount of interactions between individuals (i.e. the underlying human interaction network). (...)

Anxiety, worry and perceived stress in the world due to the COVID-19 pandemic, March 2020. Preliminary results.

Introduction: Since the beginning of the outbreak in China, ending 2019, the Novel Coronavirus (COVID-19) has spread subsequently to the rest of the world causing an on-going pandemic. The World Health Organisation (WHO) declared COVID-19: a public health emergency of international concern. Having into consideration the lockdown and quarantine situation, we decided to do evaluate the current emotional state on the general population with a web-based survey in English and in Spanish, which was considered a useful and fast method that could help us determine how people perceived stress and worry due to the COVID-19. (...)

medRxiv (e-date: 06/04/2020)
Limcaoco RSG, Mateos EM, Fernandez JM, Roncero C

COVID-19 scenario modelling for the mitigation of capacity-dependent deaths in intensive care: computer simulation study

Background Managing healthcare demand and capacity is especially difficult in the context of the COVID-19 pandemic, where limited intensive care resources can be overwhelmed by a large number of cases requiring admission in a short space of time. If patients are unable to access this specialist resource, then death is a likely outcome. The aim of this study is to estimate the extent to which such capacity-dependent deaths can be mitigated through demand-side initiatives involving non-pharmaceutical interventions and supply-side measures to increase surge capacity or reduce length of stay. (...)

medRxiv (e-date: 06/04/2020)
Wood RM, McWilliams CJ, Thomas MJ, Bourdeaux CP, Vasilakis C

Case fatality rate in COVID-19: a systematic review and meta-analysis

Background: Estimating the prevalence of severe or critical illness and case fatality of COVID-19 outbreak in December, 2019 remains a challenge due to biases associated with surveillance, data synthesis and reporting. We aimed to address this limitation in a systematic review and meta-analysis and to examine the clinical, biochemical and radiological risk factors in a meta-regression. (...)

medRxiv (e-date: 06/04/2020)
Kahathuduwa CN, Dhanasekara CS, Chin S-H

A Model for Supply-Chain Decisions for Resource Sharing with an Application to Ventilator Allocation to Combat COVID-19

This paper presents a stochastic optimization model for allocating and sharing a critical resource in the case of a pandemic. The demand for different entities peaks at different times, and an initial inventory from a central agency is to be allocated. The entities (states) may share the critical resource with a different state under a risk-averse condition. The model is applied to study the allocation of ventilator inventory in the COVID-19 pandemic by the Federal Emergency Management Agency of the U.S. Department of Homeland Security (FEMA) to different states in the US. (...)

medRxiv (e-date: 06/04/2020)
Mehrotra S, Rahimian H, Barah M, Luo F, Schantz K

Monitoring Italian COVID-19 spread by an adaptive SEIRD model

Due to the recent diffusion of COVID-19 outbreak, the scientific community is making efforts in analysing models for understanding the present situation and predicting future scenarios. In this paper, we propose a Susceptible-Infected-Exposed-Recovered-Dead (SEIRD) differential model [Weitz J. S. and Dushoff J., Scientific

reports, 2015] for the analysis and forecast of the COVID-19 spread in Italian regions, using the data from the Italian Protezione Civile from February 24th 2020. (...)

Loli Piccolomiini E, Zama F
Lien original

Sustainable social distancing through facemask use and testing during the Covid-19 pandemic

We investigate how individual protective behaviors, different levels of testing, and isolation influence the transmission and control of the COVID-19 pandemic. Based on an SEIR-type model incorporating asymptomatic but infectious individuals (40%), we show that the pandemic may be readily controllable through a combination of testing, treatment if necessary, and self-isolation after testing positive (TTI) of symptomatic individuals together with social protection (...)

Chowell G, Chowell D, Roosa K, Dhillon R, Srikrishna D
Lien original

Estimation of the Final Size of the COVID-19 Epidemic in Pakistan

The COVID-19 infections in Pakistan are spreading at an exponential rate and a point may soon be reached where rigorous prevention measures would need to be adopted. Mathematical models can help define the scale of an epidemic and the rate at which an infection can spread in a community. We used an SIR model to predict the magnitude of the COVID-19 epidemic in Pakistan and compared the numbers with the reported cases on the national database. (...)

Syed F, Sibgatullah S
Lien original

Explaining national differences in the mortality of Covid-19: individual patient simulation model to investigate the effects of testing policy and other factors on apparent mortality.

There has been extensive speculation on the apparent differences in mortality between countries reporting on the confirmed cases and deaths due to Covid-19. A number of explanations have been suggested, but there is no clear evidence about how apparent fatality rates may be expected to vary with the different testing regimes, admission policies and other variables. An individual patient simulation model was developed to address this question. (...)

Michaels JA, Stevenson MD
Lien original

Separate Fever Clinics Prevent the Spread of COVID-19 and Offload Emergency Resources: Analysis from a large tertiary hospital in China

Objectives: COVID-19 began spreading widely in China in January 2020. Outpatient Fever Clinics (FCs), instituted during the SARS epidemic in 2003 were upgraded to provide COVID-19 screening and prevention attached to large tertiary hospitals. We sought to analyze the effect of upgraded FCs to detecting COVID-19 at our institution. Design: A population-based cross-sectional study. Participants: A total of 6,365 patients were screened in the FC. (...)

Wang J, Zong L, Zhang J, Sun H, Joseph WH, Sun P, et al
Lien original

Seeding COVID-19 across sub-Saharan Africa: an analysis of reported importation events across 40 countries

Background: The first case of COVID-19 in sub-Saharan Africa (SSA) was reported by Nigeria on February 27, 2020. While case counts in the entire region remain considerably less than those being reported by individual countries in Europe, Asia, and the Americas, SSA countries remain vulnerable to significant COVID morbidity and mortality due to systemic healthcare weaknesses, less financial resources and infrastructure to address the new crisis, and untreated comorbidities. (...)

medRxiv (e-date: 06/04/2020)

Skrip LA, Selvaraj P, Hagedorn B, Ouédraogo AL, Noori N, Mistry D, et al

Lien original

Inflow restrictions can prevent epidemics when contact tracing efforts are effective but have limited capacity

When a region tries to prevent an outbreak of an epidemic, like that of COVID-19, two broad strategies are initially available: limiting the inflow of infected cases using travel restrictions and quarantines, and reducing transmissions from inflowing cases using contact tracing and community interventions. A large number of papers have used epidemiological models to argue that inflow restrictions are unlikely to be effective. (...)

medRxiv (e-date: 06/04/2020)

Malmberg H, Britton T

Lien original

Epidemiological Characteristics of COVID-19: A Systemic Review and Meta-Analysis

Background: Our understanding of the corona virus disease 2019 (COVID-19) continues to evolve. However, there are many unknowns about its epidemiology. Purpose: To synthesize the number of deaths from confirmed COVID-19 cases, incubation period, as well as time from onset of COVID-19 symptoms to first medical visit, ICU admission, recovery and death of COVID-19. (...)

medRxiv (e-date: 06/04/2020)

Khalili M, Karamouzian M, Nasiri N, Javadi S, Mirzazadeh A, Sharifi H

Lien original

COVID-19 Outbreak in Oman: Model-Driven Impact Analysis and Challenges

Motivated by the rapid spread of COVID-19 all across the globe, we have performed simulations of a system dynamic epidemic spread model in different possible situations. The simulation, not only captures the model dynamic of the spread of the virus, but also, takes care of population and mobility data. The model is calibrated based on epidemic data and events specifically of Sultanate of Oman, which can easily be generalized. (...)

medRxiv (e-date: 06/04/2020)

Zia K, Farooq U.

Lien original

Dynamic Estimation of Epidemiological Parameters of COVID-19 Outbreak and Effects of Interventions on Its Spread

A key challenge for estimating the epidemiological parameters of the COVID-19 outbreak in Wuhan is the discrepancy between the officially reported number of infections and the true number of infections. A common approach to tackling the challenge is to use the number of infections exported from Wuhan to infer the true number in the city. This approach can only provide a static estimate of the epidemiological parameters before Wuhan lockdown on January 23, 2020, because there are almost no exported cases thereafter. (...)

medRxiv (e-date: 06/04/2020)

Zhang H, Zhao X, Yin K, Yan Y, Qian W, Chen B, et al.

Lien original

Impact of viral epidemic outbreaks on mental health of healthcare workers: a rapid systematic review

Objectives: To examine the impact of providing healthcare during or after health emergencies caused by viral epidemic outbreaks on healthcare workers (HCWs) mental health, and to assess the available evidence base regarding interventions to reduce such impact. Design: Systematic rapid review and meta-analysis. (...)

medRxiv (e-date: 06/04/2020)
Ricci Cabello I, Meneses Echavez JF, Serrano-Ripoll MJ, Fraile-Navarro D, Fiol de Roque MA, Pastor Moreno G, et al
Lien original

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BLOG NEWS

Covid-19: we must take urgent action to avoid an increase in problem gambling and gambling related harms - The BMJ

BMJ Opinion (e-date: 07/04/2020)
van Schalkwyk M, Cheetham D, Reeves A, Petticrew M
Lien original

Catherine White: Advance care planning and why it matters now - The BMJ

In the wake of this experience, I was a patient representative on a research project looking at decision making in the ICU. This project has now been referenced in the rapid guideline on covid-19 produced by the National Institute for Health and Care Excellence . The research was undertaken because there was very little guidance for doctors about who has treatment in intensive care, despite these
Covid-19 has bought the decision-making process around access to intensive care into sharp focus. (...)

BMJ Opinion (e-date: 06/04/2020)
Lien original

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