ARTICLES PUBLIES OU IN PRESS (37)

Sex difference and smoking predisposition in patients with COVID-19. Lancet Respir Med. 2020 Mar 11. pii: S2213-2600(20)30117-X. doi: 10.1016/S2213-2600(20)30117-X. [Epub ahead of print]
www.ncbi.nlm.nih.gov (e-date: 16/03/2020)
Cai H
Lien original

Cardiac troponin I in patients with coronavirus disease 2019 (COVID-19): Evidence from a meta-analysis. Prog Cardiovasc Dis. 2020 Mar 10. pii: S0033-0620(20)30055-4. doi: 10.1016/j.pcad.2020.03.001. [Epub ahead of print]
Coronavirus disease 2019 (COVID-19) is an emerging outbreak caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). According to updated statistics released by the World Health Organization (WHO), COVID-19 has already affected over 110,000 people from over 100 countries worldwide, causing >3800 deaths.[1] In up to 15% of infected patients the clinical course of this pathology may be complicated by the onset of a severe form of intestinal pneumonia, which may then progress towards acute respiratory distress syndrome (ARDS) and/or multi organ failure (MOF) and death. (...)
Prog Cardiovasc Dis (e-date: 16/03/2020)
Lippi G, Lavie CJ, Sanchis-Gomar F
Lien original

An Invited Commentary on 'World Health Organization declares Global Emergency: A review of the 2019 Novel Coronavirus (COVID-19)': Emergency or New Reality? Int J Surg. 2020 Mar 10. pii: S1743-9191(20)30214-4. doi: 10.1016/j.ijsu.2020.03.002. [Epub ahead of print]
The onset of the novel Coronavirus Disease 2019 (COVID-19) outbreak in Wuhan, China, suggests animal-to-person spread and later person-to-person spread. The complete clinical picture following COVID-19 infection is not yet fully understood. A recent report on over 72,000 COVID-19 cases by the Chinese Center for Disease Control and Prevention showed the case fatality rate was overall 2.3%. The mortality rises to 8% in patients between 70 and 79-years-old, and spikes to 14.8% in those aged 80 and above. Sorhabi et al. give an informative and comprehensive account of the timeline, etiology, symptoms, supportive treatment, and transmission prevention of COVID-19. (...)
Int J Surg (e-date: 16/03/2020)
Purcell LN, Charles AG
Lien original

Washing our hands of the problem. J Hosp Infect. 2020 Mar 10. pii: S0195-6701(20)30109-2. doi: 10.1016/j.jhin.2020.03.010. [Epub ahead of print]
. Washing our hands of the problem. J Hosp Infect. 2020:S0195-6701(20)30109-2
J Hosp Infect (e-date: 16/03/2020)
Lynch C, Mahida N, Oppenheim B, Gray J
Lien original

COVID-19 and Rationally Layered Social Distancing. Int J Clin Pract. 2020 Mar 14:e13501. doi: 10.1111/ijcp.13501. [Epub ahead of print]

I would like to thank Dr. Thomson for the very pertinent and relevant points that he raised in his thoughtful letter Where are we now with COVID-19? [1]. As my response will illustrate, and in what probably will become a defining feature of conversations surrounding COVID-19 for quite some time, attempts to answer will only make room for more questions. As COVID-19 is unfolding, every day is marked by novel developments. Since the editorial went to press [2], the outbreak has expanded considerably. (...)

www.ncbi.nlm.nih.gov *(e-date: 16/03/2020)*
Stein R
Lien original

Impact of international travel and border control measures on the global spread of the novel 2019 coronavirus outbreak. Proc Natl Acad Sci U S A. 2020 Mar 13. pii: 202002616. doi: 10.1073/pnas.2002616117. [Epub ahead of print]

he novel coronavirus outbreak (COVID-19) in mainland China has rapidly spread across the globe. Within 2 mo since the outbreak was first reported on December 31, 2019, a total of 566 Severe Acute Respiratory Syndrome (SARS CoV-2) cases have been confirmed in 26 other countries. Travel restrictions and border control measures have been enforced in China and other countries to limit the spread of the outbreak. We estimate the impact of these control measures and investigate the role of the airport travel network on the global spread of the COVID-19 outbreak. Our results show that the daily risk of exporting at least a single SARS CoV-2 case from mainland China via international travel exceeded 95% on January 13, 2020. (...)

www.ncbi.nlm.nih.gov *(e-date: 16/03/2020)*
Wells CR, Sah P, Moghadas SM, Pandey A, Shoukat A, Wang Y, et al
Lien original

Makeshift hospitals for COVID-19 patients: where health-care workers and patients need sufficient ventilation for more protection. J Hosp Infect. 2020 Mar 10. pii: S0195-6701(20)30107-9. doi: 10.1016/j.jhin.2020.03.008. [Epub ahead of print]

ir,As of February 19th, the Chinese government has converted 13 large-scale public places in Wuhan City, Hubei Province into makeshift hospitals for patients in the coronavirus disease 2019 (COVID-19) with mild symptoms and such conversion will continue to contain the spread of the COVID-19. However, insufficient ventilation in these makeshift hospitals may increase infection risk of opportunistic airborne transmission.

J Hosp Infect. (e-date: 16/03/2020)
Chen C, Zhao B
Lien original

Limiting spread of COVID-19 from cruise ships - lessons to be learnt from Japan. QJM. 2020 Mar 14. pii: hcaa092. doi: 10.1093/qjmed/hcaa092. [Epub ahead of print]

www.ncbi.nlm.nih.gov *(e-date: 16/03/2020)*
Sawano T, Ozaki A, Rodriguez-Morales AJ, Tanimoto T, Sah R
Lien original

Adoption of COVID-19 triage strategies for low-income settings. Lancet Respir Med. 2020 Mar 11. pii: S2213-2600(20)30114-4. doi: 10.1016/S2213-2600(20)30114-4. [Epub ahead of print]

www.ncbi.nlm.nih.gov *(e-date: 16/03/2020)*
Ayebare RR, Flick R, Okware S, Bodo B, Lamorde M
Lien original

Co-infections of SARS-CoV-2 with multiple common respiratory pathogens in infected patients. Sci China Life Sci. 2020 Mar 5. doi: 10.1007/s11427-020-1668-5. [Epub ahead of print]

. Co-infections of SARS-CoV-2 with multiple common respiratory pathogens in infected patients. Sci China Life Sci. 2020:10.1007/s11427-020-1668-5.

www.ncbi.nlm.nih.gov *(e-date: 16/03/2020)*
Lin D, Liu L, Zhang M, Hu Y, Yang Q, Guo J, et al

Covid-19: UK holds off closing schools and restricts testing to people in hospital. BMJ. 2020 Mar 13;368:m1060. doi: 10.1136/bmj.m1060.

People displaying covid-19 symptoms—a new, continuous cough or a high temperature—should self-isolate at home for at least seven days, no matter how mild their symptoms are, the UK prime minister has said. Addressing the country from Downing Street on 12 March, Boris Johnson said that this measure would help protect others and slow the spread of the disease. He also advised people over 70 to avoid cruises and said that schools should cancel international trips. (...)

Mahase E

COVID-19 Spike-host cell receptor GRP78 binding site prediction. J Infect. 2020 Mar 10. pii: S0163-4453(20)30107-9. doi: 10.1016/j.jinf.2020.02.026. [Epub ahead of print]

Understanding the novel coronavirus (COVID-19) mode of host cell recognition may help to fight the disease and save lives. The spike protein of coronaviruses is the main driving force for host cell recognition. (...)

Ibrahim IM, Abdelmalek DH, Elshahat ME, Elfiky AA

The origin, transmission and clinical therapies on coronavirus disease 2019 (COVID-19) outbreak - an update on the status. Mil Med Res. 2020 Mar 13;7(1):11. doi: 10.1186/s40779-020-00240-0.

An acute respiratory disease, caused by a novel coronavirus (SARS-CoV-2, previously known as 2019-nCoV), the coronavirus disease 2019 (COVID-19) has spread throughout China and received worldwide attention. On 30 January 2020, World Health Organization (WHO) officially declared the COVID-19 epidemic as a public health emergency of international concern. The emergence of SARS-CoV-2, since the severe acute respiratory syndrome coronavirus (SARS-CoV) in 2002 and Middle East respiratory syndrome coronavirus (MERS-CoV) in 2012, marked the third introduction of a highly pathogenic and large-scale epidemic coronavirus into the human population in the twenty-first century. (...)

Guo Y-R, Cao Q-D, Hong Z-S, Tan Y-Y, Chen S-D, Jin H-J, et al

Combination of western medicine and Chinese traditional patent medicine in treating a family case of COVID-19 in Wuhan. Front Med. 2020 Mar 13. doi: 10.1007/s11684-020-0757-x. [Epub ahead of print]

In December 2019, an outbreak of novel Coronavirus (2019-nCoV) occurred in Wuhan, Hubei Province, China. By February 14, 2020, it has led to 66 492 confirmed patients in China and high mortality up to ~2.96% (1123/37 914) in Wuhan. Here we report the first family case of coronavirus disease 2019 (COVID-19) confirmed in Wuhan and treated using the combination of western medicine and Chinese traditional patent medicine Shuanghuanglian oral liquid (SHL). This report describes the identification, diagnosis, clinical course, and management of three cases from a family, suggests the expected therapeutic effects of SHL on COVID-19, and warrants further clinical trials.

Ni L, Zhou L, Zhou M, Zhao J, Wang DW

Coronavirus Disease 2019 (COVID-19): What we know? J Med Virol. 2020 Mar 14. doi: 10.1002/jmv.25766. [Epub ahead of print]

In late December 2019, a cluster of unexplained pneumonia cases has been reported in Wuhan, China. A few days later, the causative agent of this mysterious pneumonia was identified as a novel coronavirus. This causative virus has been temporarily named as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and the relevant infected disease has been named as coronavirus disease 2019 (COVID-19) by the World Health Organization respectively. The COVID-19 epidemic is spreading in China and all over the world now. The purpose of this

review is primarily to review the pathogen, clinical features, diagnosis, and treatment of COVID-19, but also to comment briefly on the epidemiology and pathology based on the current evidences.

www.ncbi.nlm.nih.gov (e-date: 16/03/2020)
He F, Deng Y, Li W
Lien original

Early dynamics of transmission and control of COVID-19: a mathematical modelling study. Lancet Infect Dis. 2020 Mar 11. pii: S1473-3099(20)30144-4. doi: 10.1016/S1473-3099(20)30144-4. [Epub ahead of print]

An outbreak of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has led to 95 333 confirmed cases as of March 5, 2020. Understanding the early transmission dynamics of the infection and evaluating the effectiveness of control measures is crucial for assessing the potential for sustained transmission to occur in new areas. Combining a mathematical model of severe SARS-CoV-2 transmission with four datasets from within and outside Wuhan, we estimated how transmission in Wuhan varied between December, 2019, and February, 2020. We used these estimates to assess the potential for sustained human-to-human transmission to occur in locations outside Wuhan if cases were introduced. (...)

Lancet Infect Dis (e-date: 16/03/2020)
Kucharski AJ, Russell TW, Diamond C, Liu Y, Edmunds J, Funk S, et al
Lien original

Vicarious traumatization in the general public, members, and non-members of medical teams aiding in COVID-19 control [Déjà publié en preprint dans medRxiv]. Brain Behav Immun. 2020 Mar 10. pii: S0889-1591(20)30309-3. doi: 10.1016/j.bbi.2020.03.007. [Epub ahead of print]

Since December 2019, more than 79,000 people have been diagnosed with infection of the Corona Virus Disease 2019 (COVID-19). A large number of medical staff was sent to Wuhan city and Hubei province to aid COVID-19 control. Psychological stress, especially vicarious traumatization caused by the COVID-19 pandemic, should not be ignored. To address this concern, the study employed a total of 214 general public and 526 nurses (i.e., 234 front-line nurses and 292 non-front-line nurses) to evaluate vicarious traumatization scores via a mobile app-based questionnaire. Front-line nurses are engaged in the process of providing care for patients with COVID-19. (...)

Brain Behav Immun (e-date: 16/03/2020)
Li Z, Ge J, Yang M, Feng J, Qiao M, Jiang R, et al
Lien original

Liver injury during highly pathogenic human coronavirus infections. Liver Int. 2020 Mar 14. doi: 10.1111/liv.14435. [Epub ahead of print]

The severe acute respiratory syndrome coronavirus 2 (SARS-Cov-2), the pathogen of 2019 novel coronavirus disease (COVID-19), has posed a serious threat to global public health. The WHO has declared the outbreak of SARS-CoV-2 infection an international public health emergency. Lung lesions have been considered as the major damage caused by SARS-CoV-2 infection. However, liver injury has also been reported to occur during the course of the disease in severe cases. Similarly, previous studies have shown that liver damage was common in the patients infected by the other two highly pathogenic coronavirus - severe acute respiratory syndrome coronavirus (SARS-CoV) and the Middle East respiratory syndrome coronavirus (MERS-CoV), and associated with the severity of diseases. (...)

www.ncbi.nlm.nih.gov (e-date: 16/03/2020)
Xu L, Liu J, Lu M, Yang D, Zheng X
Lien original

Genetic evolution analysis of 2019 novel coronavirus and coronavirus from other species. Infect Genet Evol. 2020 Mar 10:104285. doi: 10.1016/j.meegid.2020.104285. [Epub ahead of print]

The Corona Virus Disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a Public Health Emergency of International Concern. However, so far, there are still controversies about the source of the virus and its intermediate host. Here, we found the novel coronavirus was closely related to coronaviruses derived from five wild animals, including Paguma larvata, Paradoxurus hermaphroditus, Civet, Aselliscus stoliczkanus and Rhinolophus sinicus, and was in the same branch of the phylogenetic tree. (...)

Infect Genet Evol. (e-date: 16/03/2020)

Li C, Yang Y, Ren L
Lien original

Consensus of Chinese experts on protection of skin and mucous membrane barrier for healthcare workers fighting against coronavirus disease 2019. Dermatol Ther. 2020 Mar 13:e13310. doi: 10.1111/dth.13310. [Epub ahead of print]

Health professions preventing and controlling Coronavirus Disease 2019 are prone to skin and mucous membrane injury, which may cause acute and chronic dermatitis, secondary infection and aggravation of underlying skin diseases. This is a consensus of Chinese experts on protective measures and advice on hand-cleaning- and medical-glove-related hand protection, mask- and goggles-related face protection, UV-related protection, eye protection, nasal and oral mucosa protection, outer ear and hair protection. (...)

www.ncbi.nlm.nih.gov (e-date: 16/03/2020)
Yan Y, Chen H, Chen L, Cheng B, Diao P, Dong L, et al
Lien original

Single-cell RNA-seq data analysis on the receptor ACE2 expression reveals the potential risk of different human organs vulnerable to 2019-nCoV infection. Front Med. 2020 Mar 12. doi: 10.1007/s11684-020-0754-0. [Epub ahead of print]

It has been known that, the novel Coronavirus, 2019-nCoV, which is considered similar to SARS-CoV and originated from Wuhan (China), invades human cells via the receptor angiotensin converting enzyme II (ACE2). Moreover, lung cells that have ACE2 expression may be the main target cells during 2019-nCoV infection. However, some patients also exhibit non-respiratory symptoms, such as kidney failure, implying that 2019-nCoV could also invade other organs. (...)

www.ncbi.nlm.nih.gov (e-date: 16/03/2020)
Zou X, Chen K, Zou J, Han P, Hao J, Han Z
Lien original

COVID-19: consider cytokine storm syndromes and immunosuppression

As of March 12, 2020, coronavirus disease 2019 (COVID-19) has been confirmed in 125 048 people worldwide, carrying a mortality of approximately 3·7%,compared with a mortality rate of less than 1% from influenza. There is an urgent need for effective treatment. Current focus has been on the development of novel therapeutics, including antivirals and vaccines. Accumulating evidence suggests that a subgroup of patients with severe COVID-19 might have a cytokine storm syndrome. We recommend identification and treatment of hyperinflammation using existing, approved therapies with proven safety profiles to address the immediate need to reduce the rising mortality. (...)

The Lancet (e-date: 16/03/2020)
Mehta P, McAuley DF, Brown M, Sanchez E, Tattersall RS, Manson JJ
Lien original

COVID-19: delay, mitigate, and communicate

n March 11, 2020, WHO declared COVID-19 a pandemic and has called for governments to take "urgent and aggressive action" to change the course of the outbreak. As of March 12, 2020, the USA has suspended all travel from 26 European countries, and Italy is the latest country to enforce widespread lockdown measures to curb the spread of the virus. Robust plans and policies to avoid the disease trajectories seen in the worst-hit countries are urgently needed. These responses must be proportionate to each country's situation and communicated in a clear and balanced way to avoid spreading fear and panic. (...)

The Lancet Respiratory Medicine (e-date: 16/03/2020)
Lien original

Our experience with covid-19 patients has led to significant concerns over how they are identified and isolated

As Consultants in Acute Medicine, Intensive Care, Emergency Medicine, and Microbiology working in hospitals where patients with covid-19 have been cared for, we have significant concerns about the approach taken to identify and isolate patients with SARS-CoV-2 infection presenting to secondary care.

Firstly, we know of patients subsequently found to be positive for SARS-CoV-2 who, at presentation, did not meet

the *epidemiological* criterion from the Public Health England (PHE) case definition for possible covid-19. Initially this required, in the 14 days prior to onset of illness, travel to specified regions of the world or contact with a confirmed case of covid-19. (...)

Lien original

Covid-19: Older adults and the risks of misinformation

As covid-19 continues to spread, so too does misinformation about the virus on social media. This spread of misinformation online has become one of the central issues in the response to the covid-19 emergency. The World Health Organisation (WHO) has christened the problem an "infodemic" and has launched an initiative to counter rumours and false information. The NHS has also launched a plan to combat fake news about covid-19 by establishing a counter disinformation unit. (...)

Lien original

Better use of data and digital offer rapid opportunities to address covid-19 - The BMJ

Covid-19 is now a pandemic, and rapidly imposing new challenges on the health service. New ways of working with software and data could help. But the NHS is being held back by a long legacy of closed working models, reluctance to embrace open standards, lack of systemic design for systems and data, and a tendency to regard clinical informatics as a low-status backroom activity rather than an applied science on a par with other medical specialties. (...)

Lien original

What should primary care be doing to prepare for the wider spread of covid-19 and future pandemics? - The BMJ

n England, led by Public Health England (PHE), we are attempting to contain and delay the spread of covid-19. In parallel, surveillance systems look for evidence of spread across the general population, to indicate as to whether this strategy is effective. It is vital that primary care services are well prepared to manage the outbreak. Here we make some suggestions on how primary care should better prepare. (...)

Lien original

Covid-19: GPs call for same personal protective equipment as hospital doctors

GPs have called for practices to be given the appropriate personal protective equipment (PPE) to protect themselves and staff from covid-19.
Speaking to *The BMJ*, Fay Wilson, medical director of the Badger out-of-hours cooperative, which covers Birmingham and Solihull, said that practices had received PPE but that it was not protective enough. She said that GPs should be receiving the same FFP3 respirator masks that were being issued to hospital staff. (...)

Lien original

Trainees and covid-19: your questions answered

In a joint statement, UK training bodies and the General Medical Council have said that there will be increased requirements for trainees and trainers to support the management of acutely unwell patients.[1] "This might result in disruption or cancellation of training activities and trainees being directed to alternative tasks and/or locations to

support the covid-19 response," it said. "This could mean trainees in non-acute areas being asked to support urgent and unplanned care, such as medical admissions and the subsequent management of those patients, but may also in exceptional circumstances include providing support to clinical teams in other disciplines." (...)

Lien original

Budgeting for covid-19: changing the narrative and narrating the change

The UK government's plan for dealing with covid-19 has now moved from the "contain" phase to the "delay" stage. This is just a recognition of reality. The World Health Organization has confirmed that the outbreak is now a pandemic,and the spread of disease is moving as expected. The move to the "delay" phase raises the question of what an effective UK reaction to pandemic covid-19 is going to look like, other than to buy us some preparation time. (...)

Lien original

Covid-19: Medical conferences around the world are cancelled after US cases are linked to Massachusetts meeting

Medical conferences around the world have been cancelled because of fears about covid-19 after a meeting in Massachusetts was linked to 70 suspected cases.

The Massachusetts Department of Public Health announced earlier this month that 15 suspected cases of covid-19 in the state had a direct connection to a meeting of staff from the biotech company Biogen, held in Boston in late February. (...)

Lien original

Bearing the brunt of covid-19: older people in low and middle income countries

The global response to covid-19 has been described as being "too little, too late."1 National and international efforts are now gathering pace. Those involved in these efforts can draw on a rapidly growing body of research, much summarised in regularly updated guidelines published by national and international authorities, covering the latest information on the virus, its mode of transmission, its spread, and the susceptibility of different groups within the population. (...)

Lien original

COVID-19, a pandemic or not?

The current outbreak of coronavirus disease 2019 (COVID-19), caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), continues to spread, and as of March 11, 2020, it has reached 115 countries, with 119 239 cases and 4287 deaths. In January, WHO decided to define the outbreak of COVID-19 as a public health emergency of international concern, which triggered the release of funding and other resources. Despite SARS-CoV-2 now being present in every continent apart from Antartica, WHO remains reluctant to make the next step and call the outbreak a pandemic. (...)

Lien original

COVID-19, ECMO, and lymphopenia: a word of caution

Extracorporeal membrane oxygenation (ECMO) can serve as life-saving rescue therapy for refractory respiratory failure in the setting of acute respiratory distress syndrome, such as that induced by coronavirus disease 2019 (COVID-19). In the study by Yang and colleagues, who compared clinical characteristics and outcomes in patients with severe COVID-19, five (83%) of six patients receiving ECMO died. Although this sample was small, and specific baseline characteristics and disease courses were almost unknown, it raises concerns about potential harms of ECMO therapy for COVID-19. (...)

The Lancet Respiratory Medicine (e-date: 13/03/2020)
Henry BM
Lien original

Dark proteome of Newly Emerged SARS-CoV-2 in Comparison with Human and Bat Coronaviruses

Recently emerged Wuhan's novel coronavirus designated as SARS-CoV-2, a causative agent of coronavirus disease 2019 (COVID-19) is rapidly spreading its pathogenicity throughout the world now. More than 4000 mortalities have occurred worldwide till the writing of this article and this number is increasing every passing hour. World Health Organization (WHO) has declared it as a global public health emergency. The multiple sequence alignment data correlated with already published reports on SARS-CoV-2 indicated that it is closely related to Bat-Severe Acute Respiratory Syndrome like coronavirus (Bat CoV SARS-like) and well-studied Human SARS. (...)

bioRxiv (e-date: 14/03/2020)
Giri R, Bhardwaj T, Shegane M, Gehi BR, Kumar P, Gadhave K
Lien original

Recommendations for Anesthesia in Patients Suspected of Coronavirus 2019-nCoV Infection. Korean J Anesthesiol. 2020:10.4097/kja.20110

. .
PubMed (e-date: 16/03/2020)
Kim HJ, Ko JS, Kim T-Y, Scientific Committee on Korean Society of Anesthesiologists
Lien original

Back to the spring of Wuhan: facts and hope of COVID-19 outbreak. Frontiers of medicine. 2020:10.1007/s11684-020-0758-9.

PubMed (e-date: 16/03/2020)
Zhou G, Chen S, Chen Z
Lien original

Potential preanalytical and analytical vulnerabilities in the laboratory diagnosis of coronavirus disease 2019 (COVID-19). Clin Chem Lab Med.

A novel zoonotic coronavirus outbreak is spreading all over the world. This pandemic disease has now been defined as novel coronavirus disease 2019 (COVID-19), and is sustained by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). As the current gold standard for the etiological diagnosis of SARS-CoV-2 infection is (real time) reverse transcription polymerase chain reaction (rRT-PCR) on respiratory tract specimens, the diagnostic accuracy of this technique shall be considered a foremost prerequisite. Overall, potential RT-PCR vulnerabilities include general preanalytical issues such as identification problems, inadequate procedures for collection, handling, transport and storage of the swabs, collection of inappropriate or inadequate material (for quality or volume), presence of interfering substances, manual errors, as well as specific aspects such as sample contamination and testing patients receiving antiretroviral therapy. (...)

PubMed (e-date: 16/03/2020)
Lippi G, Simundic A-M, Plebani M
Lien original

DOCUMENTS GOUVERNEMENTAUX (19)

Protocole ministériel préhospitalier : Prise en charge des patients susceptibles de présenter une maladie respiratoire sévère (MRS) [Mis à jour le 13/03/2020]

Ministère de la Santé et des Services sociaux (Québec) (e-date: 13/03/2020)
Lien original

COVID-19 - Procédure pour le milieu carcéral admission des personnes incarcérées

Ministère de la Santé et des Services sociaux (Québec). (e-date: 15/03/2020)
Lien original

COVID-19 - Recommandations pour le milieu carcéral algorithme décisionnel admission des personnes incarcérées

Ministère de la Santé et des Services sociaux (Québec) (e-date: 15/03/2020)
Lien original

CDC 2019-Novel Coronavirus (2019-nCoV). Real-Time RT-PCR Diagnostic Panel

FDA (e-date: 15/03/2020)
Lien original

Interim Guidance for Emergency Medical Services (EMS) Systems and 911 Public Safety Answering Points (PSAPs) for COVID-19 in the United States [Mis à jour le 14/03/2020]

CDC (e-date: 14/03/2020)
Lien original

Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Persons for Coronavirus Disease 2019 (COVID-19) [Mis à jour le 14/03/2020]

CDC (e-date: 14/03/2020)
Lien original

COVID-19: rapid tests for use in community pharmacies or at home - GOV.UK
Some manufacturers are selling products for the diagnosis of COVID-19 infection in community settings, such as pharmacies. The current view by PHE is that use of these products is not advised.

Public Health England (e-date: 15/03/2020)
Lien original

Considerations in the investigation of cases and clusters of COVID-19

WHO (e-date: 13/03/2020)
Lien original

COVID-19. Guidance for infection prevention and control in healthcare settings

Public Health England (e-date: 13/03/2020)
Lien original

Stay at home: guidance for people with confirmed or possible coronavirus (COVID-19) infection

Public Health England (e-date: 12/03/2020)
Lien original

COVID-19: guidance on residential care provision

Public Health England (e-date: 13/03/2020)
Lien original

COVID-19: guidance for supported living provision
This guidance sets out key messages to support planning and preparation in the event of an outbreak or widespread transmission of COVID-19.
It is aimed at local authorities, clinical commissioning groups (CCGs), community health services and

providers of care and support delivered within supported living environments (people in their own homes), including for people with mental health conditions, learning disabilities or autistic adults.

Public Health England (e-date: 13/03/2020)
Lien original

COVID-19: guidance on home care provision

Public Health England (e-date: 13/03/2020)
Lien original

COVID-19: actions required when a case was not diagnosed on admission

This document provides advice for healthcare providers on actions for healthcare staff, who have recently identified cases of COVID-19 in existing admitted patients who were not initially diagnosed.

Public Health England (e-date: 14/03/2020)
Lien original

COVID-19: guidance for Ambulance Trusts

Public Health England (e-date: 13/03/2020)
Lien original

Conseils et mesures préventives destinés aux ressources en itinérance au Québec. Coronavirus (COVID-19)

Ministère de la Santé et des Services sociaux (Québec) (e-date: 13/03/2020)
Lien original

Ambulance Service PPE Donning & Doffing Guidance [Mis en ligne le 26/02/2020]

Association of ambulance chief executive (UK) (e-date: 26/02/2020)
Lien original

Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with Coronavirus Disease 2019 (COVID-19)

CDC (e-date: 13/03/2020)
Lien original

PREPRINTS (38)

Evaluating the effect of public health intervention on the global-wide spread trajectory of Covid-19

As COVID-19 evolves rapidly, the issues the governments of affected countries facing are whether and when to take public health interventions and what levels of strictness of these interventions should be, as well as when the COVID-19 spread reaches the stopping point after interventions are taken. To help governments with policy-making, we developed modified auto-encoders (MAE) method to forecast spread trajectory of Covid-19 of countries affected, under different levels and timing of intervention strategies. (...)

medRxiv (e-date: 15/03/2020)
Hu Z, Ge Q, Li S, Jin L, Xiong M
Lien original

Avis provisoire. Recommandations relatives à la prévention et à la prise en charge du COVID-19 chez les patients à risque de formes sévères

Rational evaluation of various epidemic models based on the COVID-19 data of China

During the study of epidemics, one of the most significant and also challenging problems is to forecast the future trends, on which all follow-up actions of individuals and governments heavily rely. However, to pick out a reliable predictable model/method is far from simple, a rational evaluation of various possible choices is eagerly needed, especially under the severe threat of COVID-19 epidemics which is spreading worldwide right now. In this paper, based on the public COVID-19 data of seven provinces/cities in China reported during the spring of 2020, we make a systematical investigation on the forecast ability of eight widely used empirical functions, four statistical inference methods and five dynamical models widely used in the literature. (...)

A Method to Model Outbreaks of New Infectious Diseases with Pandemic Potential such as COVID-19

The emergence of the novel coronavirus (a.k.a. COVID-19, SARS-CoV-2) out of Wuhan, Hubei Province, China caught the world by surprise. As the outbreak began to spread outside of China, too little was known about the virus to model its transmission with any acceptable accuracy. World governments responded to rampant minformation about the virus leading to collatoral disasters, such as plunging financial markets, that could have been avoided if better models of the outbreak had been available. (...)

Clinical Characteristics of 34 Children with Coronavirus Disease-2019 in the West of China: a Multiple-center Case Series

BACKGROUND Up to 9 March, 2020, 109577 patients were diagnosed with coronavirus disease-2019 (COVID-19) globally. The clinical and epidemiological characteristics of adult patients have been revealed recently. However, the information of paediatric patients remains unclear. We describe the clinical and epidemiological characteristics of paediatric patients to provide valuable insight into early diagnosis of COVID-19 in children, as well as epidemic control policy making. (...)

Clinical features and outcomes of 2019 novel coronavirus-infected patients with cardiac injury

Aims To explore the epidemiological and clinical features of 2019 novel coronavirus(2019-nCoV)-infected patients with cardiac injury . Methods and results Data were collected from patients medical records, and we defined cardiac injury according to cardiac biomarker troponin I level > 0.03>ug/L. Among the 291 patients, 15 (5.2%) showed evidence of cardiac injury. Of 16 hospitalized patients with cardiac injury, the median age was 62 years, and 11/15 (73.3%) were men. Underlying cardiovascular diseases in some patients were hypertension (n=7, 46.6%), coronary heart disease (n=3, 20%) and diabetes (n=3, 20%). (...)

Recommendations for standardized management of CML patients in the core epidemic area of COVID-19 (Multi-center survey results in Hubei Province, China)

Background Since late December 2019, the outbreak of the novel coronavirus disease, COVID-19, that began in Wuhan, has become endemic in China and more than 100 countries and regions in the world. There is no report about the prevalence of COVID-19 in CML patients untill now. We aimed to describe the clinical course, outcomes of CML patients with COVID-19 and prevalence of COVID-19 in CML patients. Methods In this multi-center survey, cross-sectional survey, observational study, the clinical data of CML patients with COVID-19 in each center were collected. (...)

Environmental contamination of the SARS-CoV-2 in healthcare premises: An urgent call for protection for healthcare workers

Importance A large number of healthcare workers (HCWs) were infected by SARS-CoV-2 during the ongoing outbreak of COVID-19 in Wuhan, China. Hospitals are significant epicenters for the human-to-human transmission of the SARS-CoV-2 for HCWs, patients, and visitors. No data has been reported on the details of hospital environmental contamination status in the epicenter of Wuhan. Objective To investigate the extent to which SARS-CoV-2 contaminates healthcare settings, including to identify function zones of the hospital with the highest contamination levels and to identify the most contaminated objects, and personal protection equipment (PPE) in Wuhan, China. (...)

Immunopathological characteristics of coronavirus disease 2019 cases in Guangzhou, China

oronavirus disease 2019 (COVID-19) is a respiratory disorder caused by the highly contagious SARS-CoV-2. The immunopathological characteristics of COVID-19 patients, either systemic or local, have not been thoroughly studied. In the present study, we analyzed both the changes in the cellularity of various immune cell types as well as cytokines important for immune reactions and inflammation. Our data indicate that patients with severe COVID-19 exhibited an overall decline of lymphocytes including CD4+ and CD8+ T cells, B cells, and NK cells. The number of immunosuppressive regulatory T cells was moderately increased in patients with mild COVID-19. (...)

Influence factors of death risk among COVID-19 patients in Wuhan, China: a hospital-based case-cohort study

Background. Coronavirus disease 2019 (COVID-19) triggered by infection with severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) has been widely pandemic all over the world. The aim of this study was to analyze the influence factors of death risk among 200 COVID-19 patients. Methods. Two hundred patients with confirmed SARS-CoV-2 infection were recruited. Demographic data and clinical characteristics were collected from electronic medical records. (...)

Heat inactivation of serum interferes with the immunoanalysis of antibodies to SARS-CoV-2

The detection of serum antibodies to the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is emerging as a new tool for the coronavirus disease-2019 (COVID-19) diagnosis. Since many coronaviruses are sensitive to heat, heating inactivation of samples at 56 ℃ prior to testing is

considered a possible method to reduce the risk of transmission, but the effect of heating on the measurement of SARS-CoV-2 antibodies is still unclear. (...)

medRxiv (e-date: 16/03/2020)
Hu X, An T, Situ B, Hu Y, Ou Z, Li Q, et al
Lien original

Active or latent tuberculosis increases susceptibility to COVID-19 and disease severity

Importance: Risk factors associated with COVID-19, the viral pneumonia originating in Wuhan, China, in Dec 2019, require clarification so that medical resources can be prioritized for those at highest risk of severe COVID-19 complications. Infection with M. tuberculosis (MTB), the pathogen that causes TB and latently infects ~25% of the global population, may be a risk factor for SARS-CoV-2 infection and severe COVID-19 pneumonia. Objective: To determine if latent or active TB increase susceptibility to SARS-COV-19 infection and disease severity, and lead to more rapid development of COVID-19 pneumonia. (...)

medRxiv (e-date: 16/03/2020)
Liu Y, Bi L, Chen Y, Wang Y, Fleming J, Yu Y, et al
Lien original

Relationship between the ABO Blood Group and the COVID-19 Susceptibility

OBJECTIVE To investigate the relationship between the ABO blood group and the COVID-19 susceptibility. DESIGN The study was conducted by comparing the blood group distribution in 2,173 patients with COVID-19 confirmed by SARS-CoV-2 test from three hospitals in Wuhan and Shenzhen, China with that in normal people from the corresponding regions. Data were analyzed using one-way ANOVA and 2-tailed $\chi 2$ and a meta-analysis was performed by random effects models. (...)

medRxiv (e-date: 16/03/2020)
Zhao J, Yang Y, Huang H-P, Li D, Gu D-F, Lu X-F, et al
Lien original

Estimation of the final size of the second phase of the coronavirus epidemic by the logistic model

In the note, the logistic growth regression model is used for the estimation of the final size and its peak time of the coronavirus epidemic in China, South Korea, and the rest of the World.

medRxiv (e-date: 16/03/2020)
Batista M
Lien original

Preliminary evaluation of voluntary event cancellation as a countermeasure against the COVID-19 outbreak in Japan as of 11 March, 2020

Background: To control COVID−19 outbreak in Japan, sports and entertainment events were canceled in Japan for two weeks from 26 February to 11 March. It has been designated as voluntary event cancellation (VEC). Object: This study predicts the effectiveness of VEC enduring and after its implementation. Method: We applied a simple susceptible−infected−recovery model to data of patients with symptoms in Japan during 14 January to VEC introduction and after VEC introduction to 8 March. (...)

medRxiv (e-date: 16/03/2020)
Sugishita Y, Kurita J, Sugawara T, Ohkusa Y
Lien original

Systematic review and meta-analysis of predictive symptoms and comorbidities for severe COVID-19 infection

ackground/introduction COVID−19, a novel coronavirus outbreak starting in China, is now a rapidly developing public health emergency of international concern. The clinical spectrum of COVID−19 disease is varied, and identifying factors associated with severe disease has been

described as an urgent research priority. It has been noted that elderly patients with pre-existing comorbidities are more vulnerable to more severe disease. (...)

medRxiv (e-date: 16/03/2020)
Jain V, Yuan J-M
Lien original

Generalized logistic growth modeling of the COVID-19 outbreak in 29 provinces in China and in the rest of the world

Background: the COVID-19 has been successfully contained in China but is spreading all over the world. We use phenomenological models to dissect the development of the epidemics in China and the impact of the drastic control measures both at the aggregate level and within each province. We use the experience from China to analyze the calibration results on Japan, South Korea, Iran, Italy and Europe, and make future scenario projections. (...)

medRxiv (e-date: 16/03/2020)
Wu K, Darcet D, Wang Q, Sornette D
Lien original

Spread of SARS-CoV-2 Coronavirus likely to be constrained by climate

As new cases of SARS CoV-2 (aka 2019-nCoV) Coronavirus are confirmed throughout the world and millions of people are being put into quarantine, hit the developing world, such as sub-Saharan Africa, potentially leading to a global human calamity. It is still early days, but using existing data we develop a large ensemble of ecological niche models that project monthly variation in climate suitability of SARS-CoV-2 Coronavirus throughout a typical climatological year. (...)

medRxiv (e-date: 16/03/2020)
Araujo MB, Naimi B
Lien original

Strongly heterogeneous transmission of COVID-19 in mainland China: local and regional variation

Background The outbreak of novel coronavirus disease 2019 (COVID-19) started in the city of Wuhan, China, with a period of rapid initial spread. Transmission on a regional and then national scale was promoted by intense travel during the holiday period of the Chinese New Year. We studied the variation in transmission of COVID-19, locally in Wuhan, as well as on a larger spatial scale, among different cities and even among provinces in mainland China. (...)

medRxiv (e-date: 16/03/2020)
Wang Y, Teunis PFM
Lien original

Duration of viral detection in throat and rectum of a patient with COVID-19

The rapid spread of coronavirus disease 2019 (COVID-19) raises concern about a global pandemic. Knowledge about the duration of viral shedding remains important for patient management and infection control. We report the duration of viral detection in throat and rectum of a COVID-19 patient treated at the Hospital for Tropical Diseases in Ho Chi Minh City, Vietnam. (...)

medRxiv (e-date: 16/03/2020)
Tan LV, Ngoc NM, That BTT, Uyen LTT, Hong NTT, Dung NTP, et al
Lien original

Immune phenotyping based on neutrophil-to-lymphocyte ratio and IgG predicts disease severity and outcome for patients with COVID-19

Background: A recently emerging respiratory disease named coronavirus disease 2019 (COVID-19) has quickly spread across the world. This disease is initiated by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) and uncontrolled cytokine storm, but it remains unknown as to whether a robust antibody response is related to clinical deterioration and poor outcome in laboratory-confirmed COVID-19 patients. (...)

medRxiv (e-date: 16/03/2020)

Zhang B, Zhou X, Zhu C, Feng F, Qiu Y, Feng J, et al
Lien original

Health, distress, and life satisfaction of people one-month into COVID-19 outbreak in China

Background What are the health and wellbeing conditions of people during the COVID-19 outbreak in China? The epidemiological reports now focus on the confirmed COVID-19 cases, and we aim to assess the health and wellbeing of normal adults living and working after one month of public health emergencies into the COVID-19 outbreak in China. Methods One month into the outbreak, on Feb 20/21, 2020, we sampled 369 adults on the eight dimensions of health (SF12), distress (K6), and life satisfaction in 64 cities that varied in their densities of coronavirus confirmed cases. (...)

medRxiv (e-date: 16/03/2020)
Zhang SX, Wang Y, Rauch A, Wei F
Lien original

Triaging patients in the outbreak of the 2019 novel coronavirus

In the end of 2019, the epidemic of a new coronavirus (SARS-CoV-2) occurred in Wuhan and spread rapidly. Changsha, a city located south to the epicenter, was soon impacted. To control the transmission of the coronavirus and avoid nosocomial infection, triage procedures based on epidemiology were implemented in a local hospital of the city. This retrospective study analyzed the data collected during the triage period and found that COVID-19 patients were enriched seven folds into the Section A designated for rapid detection and quarantine. On the other side, roughly triple amounts of visits were received at the Section B for patients without obvious epidemiological history. (...)

medRxiv (e-date: 16/03/2020)
Huang G, Zeng W, Wang W, Song Y, Mo X, Li J, et al
Lien original

Ocular manifestations and clinical characteristics of 534 cases of COVID-19 in China: A cross-sectional study

Objective: The novel coronavirus disease (COVID-19) was first reported in Wuhan, China in December 2019 and is now pandemic all over the world. Previous study has reported several COVID-19 cases with conjunctivitis. However, the complete profiling of COVID-19 related ocular symptoms and diseases are still missing. We aim to investigate the ocular manifestations and clinical characteristics of COVID-19 patients. (...)

medRxiv (e-date: 16/03/2020)
Chen L, Deng C, Chen X, Zhang X, Chen B, Yu H, et al
Lien original

Impact assessment of non-pharmaceutical interventions against COVID-19 and influenza in Hong Kong: an observational study

Background: A range of public health measures have been implemented to delay and reduce local transmission of COVID-19 in Hong Kong, and there have been major changes in behaviours of the general public. We examined the effect of these interventions and behavioral changes on the incidence of COVID-19 as well as on influenza virus infections which may share some aspects of transmission dynamics with COVID-19. (...)

medRxiv (e-date: 16/03/2020)
Cowling BJ, Ali ST, Ng TWY, Tsang TK, Li JCM, Fong MW, et al
Lien original

Social distance and SARS memory: impact on the public awareness of 2019 novel coronavirus (COVID-19) outbreak

This study examines publicly available online search data in China to investigate the spread of public awareness of the 2019 novel coronavirus (COVID-19) outbreak. We found that cities that suffered from SARS and have greater migration ties to the epicentre, Wuhan, had earlier, stronger and more

durable public awareness of the outbreak. Our data indicate that forty-eight such cities developed awareness up to 19 days earlier than 255 comparable cities, giving them an opportunity to better prepare. (...)

medRxiv (e-date: 16/03/2020)
Chen H, Xu W, Paris C, Reeson A, Li X
Lien original

SARS-CoV-2 invades host cells via a novel route: CD147-spike protein

Currently, COVID-19 caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has been widely spread around the world; nevertheless, so far there exist no specific antiviral drugs for treatment of the disease, which poses great challenge to control and contain the virus. Here, we reported a research finding that SARS-CoV-2 invaded host cells via a novel route of CD147-spike protein (SP). SP bound to CD147, a receptor on the host cells, thereby mediating the viral invasion. Our further research confirmed this finding. (...)

bioRxiv (e-date: 14/03/2020)
Wang K, Chen W, Zhou Y-S, Lian J-Q, Zhang Z, Du P, et al
Lien original

Nucleotide Analogues as Inhibitors of SARS-CoV Polymerase

SARS-CoV-2, a member of the coronavirus family, has caused a global public health emergency. Based on our analysis of hepatitis C virus and coronavirus replication, and the molecular structures and activities of viral inhibitors, we previously reasoned that the FDA-approved heptatitis C drug EPCLUSA (Sofosbuvir/Velpatasvir) should inhibit coronaviruses, including SARS-CoV-2. Here, using model polymerase extension experiments, we demonstrate that the activated triphosphate form of Sofosbuvir is incorporated by low-fidelity polymerases and SARS-CoV RNA-dependent RNA polymerase (RdRp), and blocks further incorporation by these polymerases (...)

bioRxiv (e-date: 14/03/2020)
Ju J, Li X, Kumar S, Jockusch S, Chien M, Tao C, et al
Lien original

Structural and functional conservation of the programmed -1 ribosomal frameshift signal of SARS-CoV-2

17 years after the SARS-CoV epidemic, the world is facing the COVID-19 pandemic. COVID-19 is caused by a coronavirus named SARS-CoV-2. Given the most optimistic projections estimating that it will take more than a year to develop a vaccine, our best short term strategy may lie in identifying virus-specific targets for small molecule interventions. (...)

bioRxiv (e-date: 15/03/2020)
Kelly JA, Dinman JD
Lien original

SARS-CoV-2 receptor ACE2 and TMPRSS2 are predominantly expressed in a transient secretory cell type in subsegmental bronchial branches

The SARS-CoV-2 pandemic affecting the human respiratory system severely challenges public health and urgently demands for increasing our understanding of COVID-19 pathogenesis, especially host factors facilitating virus infection and replication. SARS-CoV-2 was reported to enter cells via binding to ACE2, followed by its priming by TMPRSS2. (...)

bioRxiv (e-date: 14/03/2020)
Lukassen S, Chua RL, Trefzer T, Kahn NC, Schneider MA, Muley T, et al
Lien original

Reinfection could not occur in SARS-CoV-2 infected rhesus macaques

An outbreak of the Corona Virus Disease 2019 (COVID-19), caused by the severe acute respiratory syndrome CoV-2 (SARS-CoV-2), began in Wuhan and spread globally. Recently, it has been reported that discharged patients in China and elsewhere were testing positive after recovering.

However, it remains unclear whether the convalescing patients have a risk of "relapse" or "reinfection". (...)

bioRxiv (e-date: 14/03/2020)
Bao L, Deng W, Gao H, Xiao C, Liu J, Xue J, et al
Lien original

Accurate Identification of SARS-CoV-2 from Viral Genome Sequences using Deep Learning

One of the reasons for the fast spread of SARS-CoV-2 is the lack of accuracy in detection tools in the clinical field. Molecular techniques, such as quantitative real-time RT-PCR and nucleic acid sequencing methods, are widely used to identify pathogens. For this particular virus, however, they have an overall unsatisfying detection rate, due to its relatively recent emergence and still not completely understood features. In addition, SARS-CoV-2 is remarkably similar to other Coronaviruses, and it can present with other respiratory infections, making identification even harder. (...)

bioRxiv (e-date: 14/03/2020)
Lopez-Rincon A, Tonda A, Mendoza-Maldonado L, Claassen E, Garssen J, Kraneveld AD
Lien original

The architecture of SARS-CoV-2 transcriptome

SARS-CoV-2 is a betacoronavirus that is responsible for the COVID-19 pandemic. The genome of SARS-CoV-2 was reported recently, but its transcriptomic architecture is unknown. Utilizing two complementary sequencing techniques, we here present a high-resolution map of the SARS-CoV-2 transcriptome and epitranscriptome. DNA nanoball sequencing shows that the transcriptome is highly complex owing to numerous recombination events, both canonical and noncanonical. (...)

bioRxiv (e-date: 14/03/2020)
Kim D, Lee J-Y, Yang J-S, Kim JW, Kim VN, Chang H
Lien original

A highly conserved cryptic epitope in the receptor-binding domains of SARS-CoV-2 and SARS-CoV

The outbreak of COVID-19, which is caused by SARS-CoV-2 virus, continues to spread globally, but there is currently very little understanding of the epitopes on the virus. In this study, we have determined the crystal structure of the receptor-binding domain (RBD) of the SARS-CoV-2 spike (S) protein in complex with CR3022, a neutralizing antibody previously isolated from a convalescent SARS patient. (...)

bioRxiv (e-date: 14/03/2020)
Yuan M, Wu NC, Zhu X, Lee C-CD, So RTY, Lv H, et al
Lien original

High sensitivity detection of SARS-CoV-2 using multiplex PCR and a multiplex-PCR-based metagenomic method

Many detection methods have been used or reported for the diagnosis and/or surveillance of SARS-CoV-2. Among them, reverse transcription polymerase chain reaction (RT-PCR) is the most sensitive, claiming detection of about 5 copies of viruses. However, it has been reported that only 47-59% of the positive cases were identified by RT-PCR, probably due to loss or degradation of virus RNA in the sampling process, or even mutation of the virus genome. (...)

bioRxiv (e-date: 14/03/2020)
Li C, Debruyne D, Spencer J, Kapoor V, Liu LY, Zhang B, et al
Lien original

Differential Antibody Recognition by Novel SARS-CoV-2 and SARS-CoV Spike Protein Receptor Binding Domains: Mechanistic Insights

he appearance of the novel betacoronavirus SARS-CoV-2 represents a major threat to human health, and its diffusion around the world is causing dramatic consequences. The knowledge of the 3D

structures of SARS-CoV-2 proteins can facilitate the development of therapeutic and diagnostic molecules. Specifically, comparative analyses of the structures of SARS-CoV-2 proteins and homologous proteins from previously characterized viruses, such as SARS-CoV, can reveal the common and/or distinctive traits that underlie the mechanisms of recognition of cell receptors and of molecules of the immune system. (...)

bioRxiv (e-date: 14/03/2020)
D'Annessa I, Marchetti F, Colombo G
Lien original

Development of CRISPR as a prophylactic strategy to combat novel coronavirus and influenza

The outbreak of the coronavirus disease 2019 (COVID-19), caused by the Severe Acute Respiratory Syndrome coronavirus 2 (SARS-CoV-2), has infected more than 100,000 people worldwide with over 3,000 deaths since December 2019. There is no cure for COVID-19 and the vaccine development is estimated to require 12-18 months. Here we demonstrate a CRISPR-Cas13-based strategy, PAC-MAN (Prophylactic Antiviral CRISPR in huMAN cells), for viral inhibition that can effectively degrade SARS-CoV-2 sequences and live influenza A virus (IAV) genome in human lung epithelial cells. We designed and screened a group of CRISPR RNAs (crRNAs) targeting conserved viral regions and identified functional crRNAs for cleaving SARS-CoV-2. (...)

bioRxiv (e-date: 14/03/2020)
Abbott TR, Dhamdhere G, Liu Y, Lin X, Goudy LE, Zeng L, et al
Lien original

Rhesus macaques can be effectively infected with SARS-CoV-2 via ocular conjunctival route

The outbreak of Corona Virus Disease 2019 (COVID-19) is highly infectious and transmitted mainly through human-to-human transmission via respiratory droplets and direct or close contact to the patients with SARS-CoV-2. The other potential transmission routes remain to be further researched. In some clinical cases, samples of tears and conjunctival secretions from both SARS-CoV and SARS-CoV-2 patients with conjunctivitis displayed detectable viral RNA. A previous study reported the case of a clinician who was infected with SARS-CoV-2 while working with patients under all safeguards except eye protection. By contrast, no SARS-CoV-2 could be detected by RT-PCR in 114 conjunctival swabs samples from patients with COVID-19 pneumonia. (...)

bioRxiv (e-date: 14/03/2020)
Deng W, Bao L, Gao H, Xiang Z, Qu Y, Song Z, et al
Lien original

ARTICLES EN CHINOIS (résumé en anglais) (22)

[A pathological report of three COVID-19 cases by minimally invasive autopsies]. Zhonghua bing li xue za zhi = Chinese journal of pathology. 2020;49(0):E009-E.

Objective: To investigate the pathological characteristics and the clinical significance of novel coronavirus (2019-nCoV)-infected pneumonia (termed by WHO as corona virus disease 2019, COVID-19). **Methods:** Minimally invasive autopsies from lung, heart, kidney, spleen, bone marrow, liver, pancreas, stomach, intestine, thyroid and skin were performed on three patients died of novel coronavirus pneumonia in Chongqing, China. Hematoxylin and eosin staining (HE) and histochemical staining were performed to investigate the pathological changes of indicated organs or tissues. (...)

PubMed (e-date: 16/03/2020)
Yao XH, Li TY, He ZC, Ping YF, Liu HW, Yu SC, et al
Lien original

[1]   Zhou F, Yu T, Du R, Fan G, Liu Y, Liu Z, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. Lancet. 2020.https://doi.org/10.1016/s0140-6736(20)30566-3

[2]   Zhou C, Gao C, Xie Y, Xu M. COVID-19 with spontaneous pneumomediastinum. Lancet Infect Dis. 2020.https://doi.org/10.1016/s1473-3099(20)30156-0

[3]   Zhao JP, Hu Y, Du RH, Chen ZS, Jin Y, Zhou M, et al. [Expert consensus on the use of corticosteroid in patients with 2019-nCoV pneumonia]. Zhonghua Jie He He Hu Xi Za Zhi. 2020;43(3):183-4.https://www.ncbi.nlm.nih.gov/pubmed/32164084

[4]   Yang F, Liu N, Hu JY, Wu LL, Su GS, Zhong NS, et al. [Pulmonary rehabilitation guidelines in the principle of 4S for patients infected with 2019 novel coronavirus (2019-nCoV)]. Zhonghua Jie He He Hu Xi Za Zhi. 2020;43(3):180-2.https://www.ncbi.nlm.nih.gov/pubmed/32164083

[5]   Wang T, Du Z, Zhu F, Cao Z, An Y, Gao Y, et al. Comorbidities and multi-organ injuries in the treatment of COVID-19. Lancet. 2020.https://doi.org/10.1016/s0140-6736(20)30558-4

[6]   Shi HZ, Ma P, Gao FY, Chen GL, Yu YH, Wang XD, et al. [2019 novel coronavirus, angiotensin converting enzyme 2 and cardiovascular drugs]. Zhonghua Xin Xue Guan Bing Za Zhi. 2020;48(0):E010.https://www.ncbi.nlm.nih.gov/pubmed/32166940

[7]   Sarwar Shah SG. A Commentary on "World Health Organization declares Global Emergency: A review of the 2019 Novel Coronavirus (COVID-19)". Int J Surg. 2020.https://doi.org/10.1016/j.ijsu.2020.03.001

[8]   Parcina M, Schneider UV, Visseaux B, Jozic R, Hannet I, Lisby JG. Multicenter evaluation of the QIAstat Respiratory Panel-A new rapid highly multiplexed PCR based assay for diagnosis of acute respiratory tract infections. PloS one. 2020;15(3):e0230183.https://doi.org/10.1371/journal.pone.0230183

[9]   Pan C, Zhang W, Du B, Qiu HB, Huang YZ. [Prone ventilation for novel coronavirus pneumonia: no time to delay]. Zhonghua Nei Ke Za Zhi. 2020;59(0):E007.https://www.ncbi.nlm.nih.gov/pubmed/32160739

[10]   Ng OT, Marimuthu K, Chia PY, Koh V, Chiew CJ, De Wang L, et al. SARS-CoV-2 Infection among Travelers Returning from Wuhan, China. The New England journal of medicine. 2020.https://doi.org/10.1056/NEJMc2003100

[11]   Multicenter collaboration group of Department of Science and Technology of Guangdong Province and Health Commission of Guangdong Province for chloroquine in the treatment of novel coronavirus pneumonia. [Expert consensus on chloroquine

phosphate for the treatment of novel coronavirus pneumonia]. Zhonghua Jie He He Hu Xi Za Zhi. 2020;43(3):185-8.https://www.ncbi.nlm.nih.gov/pubmed/32164085

[12]   Mao R, Liang J, Shen J, Ghosh S, Zhu LR, Yang H, et al. Implications of COVID-19 for patients with pre-existing digestive diseases. Lancet Gastroenterol Hepatol. 2020.https://doi.org/10.1016/s2468-1253(20)30076-5

[13]   Liu YN. [Pharmacotherapeutic about the new coronavirus pneumonia]. Zhonghua Jie   He   He   Hu   Xi   Za   Zhi.   2020;43(3):161-2.https://www.ncbi.nlm.nih.gov/pubmed/32164077

[14]   Li H, Wang YM, Xu JY, Cao B. [Potential antiviral therapeutics for 2019 Novel Coronavirus].   Zhonghua   Jie   He   He   Hu   Xi   Za   Zhi.   2020;43(3):170-2.https://www.ncbi.nlm.nih.gov/pubmed/32164080

[15]   Kucharski AJ, Russell TW, Diamond C, Liu Y, Edmunds J, Funk S, et al. Early dynamics of transmission and control of COVID-19: a mathematical modelling study. Lancet Infect Dis. 2020.https://doi.org/10.1016/s1473-3099(20)30144-4

[16]   Jones DS. History in a Crisis - Lessons for Covid-19. The New England journal of medicine. 2020.https://doi.org/10.1056/NEJMp2004361

[17]   Guo YR, Cao QD, Hong ZS, Tan YY, Chen SD, Jin HJ, et al. The origin, transmission and clinical therapies on coronavirus disease 2019 (COVID-19) outbreak - an update on the status. Mil Med Res. 2020;7(1):11.https://doi.org/10.1186/s40779-020-00240-0

[18]   Glasper A. Potential global pandemics: the role of the WHO and other public health bodies. British journal of nursing (Mark Allen Publishing). 2020;29(5):322-3.https://doi.org/10.12968/bjon.2020.29.5.322

[19]   Gao ZC. [Efficient management of novel coronavirus pneumonia by efficient prevention and control in scientific manner]. Zhonghua Jie He He Hu Xi Za Zhi. 2020;43(3):163-6.https://www.ncbi.nlm.nih.gov/pubmed/32164078

[20]   Fang L, Karakiulakis G, Roth M. Are patients with hypertension and diabetes mellitus   at   increased   risk   for   COVID-19   infection?   Lancet   Respir   Med. 2020.https://doi.org/10.1016/s2213-2600(20)30116-8

[21]   Critical care committee of Chinese Association of Chest Physician, Respiratory and critical care group of Chinese Thoracic Society, Respiratory care group of Chinese Thoracic Society. [Conventional respiratory support therapy for Severe Acute Respiratory Infections (SARI): Clinical indications and nosocomial infection prevention and control]. Zhonghua   Jie   He   He   Hu   Xi   Za   Zhi.   2020;43(3):189-94.https://www.ncbi.nlm.nih.gov/pubmed/32164086

[22]   Chen L, Liu HG, Liu W, Liu J, Liu K, Shang J, et al. [Analysis of clinical features of 29 patients with 2019 novel coronavirus pneumonia]. Zhonghua Jie He He Hu Xi Za Zhi. 2020;43(3):203-8.https://www.ncbi.nlm.nih.gov/pubmed/32164089