Library Service and Knowledge Hub

Issue 4 COVID-19 Evidence Update

Week Ending 17th April 2020

Welcome to the latest COVID-19 Update. Information with regards COVID-19 is emerging at a rapid pace, this evidence update will be produced weekly during the crisis. It will highlight a few sources of knowledge and appropriate documents – most websites are open access at the time of writing. Note at the moment most publishers are allowing free access to articles on COVID-19 that would normally be restricted to paid subscriptions. Please feel free to print and share.

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RWT Libraries are no longer physically staffed due to the COVID-19 pandemic, but we are all working from home and will continue to support your information and knowledge needs. Please contact us on the library generic e-mail above. Thank you.

New Databases and Resources

Health Service Journal Coronavirus. HSJ have made Covid-19 articles freely available. Freely available at: https://www.hsj.co.uk/coronavirus

CEBM Research

Aronson, JK, Brassey, J and Mahtani, KR. “When will it be over?”: an introduction to viral reproduction numbers, R0 and Re. CEBM, 14th April 2020.

On 30 March 2020, Sir Patrick Vallance, the Government’s Chief Scientific Officer, gave an indication of how this decision may be guided, saying that Britain’s lockdown was having a “very big effect” on the R0, bringing it down “below one”. The figure to which he was referring is the basic reproduction number (or reproductive ratio) of a virus, called R0 (R nought or R zero). And it is important to know how to interpret it. Freely available at: https://www.cebm.net/covid-19/when-will-it-be-over-an-introduction-to-viral-reproduction-numbers-r0-and-re/
Coles, B et al. *What is the efficacy of aprons compared to gowns in primary care settings.* CEBM, 16th April 2020.

No relevant trials have tested gowns versus aprons for prevention of COVID-19 infection in healthcare workers in primary care settings. Exposure simulation studies suggest that gowns may provide more protection but the size of this benefit has not been quantified. The WHO recommends long-sleeved gown for both AGPs and non-AGPs. Freely available at: https://www.cebm.net/covid-19/what-is-the-effectiveness-of-protective-gowns-and-aprons-against-covid-19-in-primary-care-settings/


Current data do not support the use of hydroxychloroquine for prophylaxis or treatment of COVID-19. There are no published trials of prophylaxis. Two trials of hydroxychloroquine treatment that are in the public domain, one non-peer reviewed, are premature analyses of trials whose conduct in both cases diverged from the published skeleton protocols register on the clinical trials sites. Neither they, nor three other negative trials have since appeared, support the view that hydroxychloroquine is effective in the management of even mild COVID-19 disease. Freely available at: https://www.cebm.net/covid-19/hydroxychloroquine-for-covid-19-what-do-the-clinical-trials-tell-us/

Greenhalgh, T et al. *Rapid reviews of PPE – an update.* CEBM, 14th April 2020. First, there is almost no direct evidence on the efficacy of PPE from research studies on COVID-19. Second, there is a lot of indirect evidence from a variety of study designs and real-world data (randomised controlled trials, natural experiments, artificial laboratory studies and more). This evidence varies in quality, and its relevance to the current outbreak is contested. Third, PPE provided to healthcare workers is in short supply and it does not always meet the minimum standards recommended by national and international bodies. Fourth, healthcare workers at the front line are dying. Freely available at: https://www.cebm.net/covid-19/editors-commentary-rapid-reviews-of-ppe-an-update/


To answer this we searched LitCovid (a subset of Pubmed), medRxiv, Trip, Scholar and Google. We retrieved 21 reports for analysis. What did we learn (see the table for the analysis): that between 5% and 80% of people testing positive for SARS-CoV-2 may be asymptomatic; that symptom-based screening will miss cases, perhaps a lot of them; that some asymptomatic cases will become symptomatic over the next week (sometimes known as "pre-symptomatics") and that children and young adults can be asymptomatic. We also learnt that there is not a single reliable study to determine the number of asymptotics. It is likely we will only learn the true extent once population based antibody testing is undertaken. Freely available at: https://www.cebm.net/covid-19/covid-19-what-proportion-are-asymptomatic/


Pandemic, as the definition goes, is the worldwide spread of a new disease. Most of the historical analysis point to those in younger age groups being disproportionately affected in a pandemic. As opposed to seasonal outbreaks where older people are more likely to be affected. In this current pandemic, the age structure of those most affected reveals a tension between whether COVID-19 is operating more like a seasonal viral effect or is similar in its effect to previous pandemics. Freely available at: https://www.cebm.net/covid-19/covid-19-deaths-compared-with-swine-flu/


William Farr, was a UK epidemiologist and early statistician. Farr recognised the importance of analysing death statistics and attributing causation. These vital statistics set out how to analyse mortality and epidemics. Understanding William Farr’s contribution to outbreaks is crucial to understanding our way out of this pandemic. Freely available at: https://www.cebm.net/covid-19/covid-19-william-farrs-way-out-of-the-pandemic/
Heneghan, C and Jefferson, T.  **What does RCGP surveillance tell us about COVID-19 in the community.** CEBM, 16th April 2020.
The current community transmission of COVID is low and not at epidemic levels. The rates are less than that of confirmed cases in the UK. This could be explained by asymptomatic people or those with mild infections not seeking out testing in primary care. The observed reductions in URTIs and LRTIs suggest that most of the effect on rates transmission occurred through the encouragement of social distancing.  Freely available at: https://www.cebm.net/covid-19/what-does-rcgp-surveillance-tell-us-about-covid-19-in-the-community/

What happened in Lombardy (the richest and most densely populated region of Italy) in the late winter of 2019/20 will be the topic of future commentary. Before describing and trying to analyse the events of 2020, we would like to point out another extraordinary contribution that this region made to the epidemiology of communicable diseases. Freely available at: https://www.cebm.net/covid-19/covid-19-the-great-plague-of-lombardy-a-not-so-distant-resonance-chamber/

Koshkouei, M et al.  **How can pandemic spreads be contained in care homes?** CEBM, 14th April 2020.
Care home settings serve a primarily elderly population with a diverse range of medical requirements. Care homes are unique in being both health-related institutions and people’s home. In available data the risk of dying from COVID-19 increases with age, and most of the deaths observed are in people older than 60. Studies of care home residents have shown that respiratory tract infection (RTIs) outbreaks are more frequent than gastrointestinal and spread more quickly amongst the population, with less autonomous residents being more severely affected by RTIs such as influenza. Introducing further complexity, residents may have diverse needs through health and functional status, potentially exhibiting behaviours that compromise infection control (e.g. spitting), carers vary in levels of training, and facilities themselves differ in how they are set up and run. In response to the COVID-19 pandemic many such settings have introduced restrictions on visitors to minimise the risk of spreading the infection to their residents. This rapid review evaluates available measures to minimise the risk of infection spread among residents and staff within care home settings. Freely available at: https://www.cebm.net/covid-19/how-can-pandemic-spreads-be-contained-in-care-homes/

McCall, MC, Nunan, D and Heneghan, C.  **Does physical exercise prevent or treat acute respiratory infection (ARI)?** CEBM, 16th April 2020.
There is low quality evidence to suggest exercise has no impact on the rate and duration of acute respiratory infection but may provide a small reduction in severity of symptoms. Research is exercise immunology suggests moderate exertion may decrease the risk of acute respiratory infection in healthy adults but lacks assessment of its reliability. COVId-19 research should dedicate resources to investigate exercise interventions as prevention of potential treatment during mild cases or to speed recovery from intensive care following ARI. Freely available at: https://www.cebm.net/covid-19/does-physical-exercise-prevent-or-treat-acute-respiratory-infection-ari/

The April 1st briefing definition ‘COVID-19 hospital admissions’ can be interpreted in different ways. Does the definition include only those who tested positive, or people already in hospital for other reasons? Does it include people who had COVID-19 prior to admission and were admitted for other reasons than COVID-19? We do not know the answers to these questions. Freely available at: https://www.cebm.net/covid-19/are-covid-19-patients-in-hospital-or-admitted-to-hospital/

NHS England releases data at 2 pm each day and reports daily counts up to the previous day as well as a total figure. Freely available at: https://www.cebm.net/covid-19/covid-19-death-data-in-england-update-13th-april/

N-acetylcysteine (NAC) was introduced in the 1960s as a mucolytic drug for chronic respiratory diseases. It has a well-established safety profile and is still commonly used orally at doses of 600mg/day as a mucolytic. In hospital

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settings, it is also used as an antidote for paracetamol overdose (IV formulation at doses of up to 150mg/kg) and in nebulized format in patients with acute bronchopulmonary disease (pneumonia, bronchitis, tracheobronchitis). We therefore aimed to conduct a rapid review of NAC with specific emphasis on its potential for early administration in the community for patients at greater risk of severe COVID-19. Freely available at: https://www.cebm.net/covid-19/n-acetylcysteine-a-rapid-review-of-the-evidence-for-effectiveness-in-treating-covid-19/.

The key recommendations from current guidance and research for healthcare workers supporting patients with COVID-related anxiety include: regulating exposure to COVID-related media; maintaining a strong social network; looking after your body and avoiding unhealthy coping strategies and focusing on self-care techniques including mindfulness. Freely available at: https://www.cebm.net/covid-19/practical-tips-for-clinicians-helping-patients-with-covid-related-anxiety-distress/

Cochrane Reviews

Current evidence for COVID-19 is limited to modelling studies that make parameter assumptions based on the current, fragmented knowledge. Findings consistently indicate that quarantine is important in reducing incidence and mortality during the COVID-19 pandemic. Early implementation of quarantine and combining quarantine with other public health measures is important to ensure effectiveness. In order to maintain the best possible balance of measures, decision makers must constantly monitor the outbreak situation and the impact of the measures implemented. Testing in representative samples in different settings could help assess the true prevalence of infection, and would reduce uncertainty of modelling assumptions. This review was commissioned by WHO and supported by Danube-University-Krems. Freely available at: https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD013574/full

Government Publications

In response to the public health emergency posed by COVID-19, NHS England has established a rapid policy development process to aid clinicians in offering best care and advice to patients with or at risk of COVID-19. This document sets out the clinical policy for the acute use of non-steroidal anti-inflammatory drugs (NSAIDs) in people with or at risk of COVID-19. The chronic use of NSAIDs is outside of the scope of this policy with a separate review to take place. Freely available at: https://www.england.nhs.uk/coronavirus/publication/acute-use-of-non-steroidal-anti-inflammatory-drugs/


This guidance outlines COVID-19 advice for commissioners and service providers involved in assisting people who are dependent on drugs, alcohol or both. Freely available at: https://www.gov.uk/government/publications/covid-19-guidance-for-commissioners-and-providers-of-services-for-people-who-use-drugs-or-alcohol
NICE Publications

At this time, policy decisions on whether NSAIDs should be used for treating symptoms of COVID-19 will need to take into account data extrapolated from studies involving the use of NSAIDs for other acute respiratory tract infections, together with pharmacoepidemiological studies. The available evidence suggests that, although the anti-inflammatory effects of NSAIDs reduce acute symptoms (such as fever), they may either have no effect on, or worsen, long-term outcomes, possibly by masking symptoms of worsening acute respiratory tract infection. Further evidence is needed to confirm this, and to determine whether these results also apply to infections such as COVID-19. Freely available at: https://www.nice.org.uk/advice/es23/evidence/evidence-review-pdf-8717218669

NICE. Covid-19 rapid guideline: community-based care of patients with chronic obstructive pulmonary disease (COPD) NG168. 9th April 2020.
The purpose of this guideline is to maximise the safety of patients with chronic obstructive pulmonary disease (COPD) during the COVID-19 pandemic, while protecting staff from infection. Freely available at: https://www.nice.org.uk/guidance/ng168

The purpose of this guideline is to maximise the safety of patients with cystic fibrosis and make the best use of NHS resources, while protecting staff from infection. It will also enable services to match capacity to patient needs if services become limited because of the COVID-19 pandemic. Freely available at: https://www.nice.org.uk/guidance/ng170

NICE. Covid-19 rapid guideline: dermatological conditions treated with drugs affecting the immune response NG169. 9th April 2020.
The purpose of this guideline is to maximise the safety of children and adults who have dermatological conditions treated with drugs affecting the immune response during the COVID-19 pandemic. It also aims to protect staff from infection and enable services to make the best use of NHS resources. Freely available at: https://www.nice.org.uk/guidance/ng169


Up-To-Date

This topic will discuss the epidemiology, clinical features, and management of patients who become critically ill due to COVID-19. Other aspects of COVID-19, and other coronavirus-related diseases (severe acute respiratory syndrome [SARS] and Middle East respiratory syndrome [MERS]), are discussed separately. Freely available at: https://www.uptodate.com/contents/coronavirus-disease-2019-covid-19-critical-care-issues?search=covid%2019%20critical%20care&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1

The coronavirus disease of 2019 (COVID-19) is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; previously referred to as 2019-nCoV). Patients with COVID-19 commonly present with signs of myocardial injury. This topic will discuss evaluation and management of these patients. Freely available at: https://www.uptodate.com/contents/coronavirus-disease-2019-covid-19-myocardial-injury?search=covid%2019%20critical%20care&source=search_result&selectedTitle=4~150&usage_type=default&display_rank=4


Pinto, DS. Coronavirus disease 2019 (COVID-19): coronary artery disease issues. UpToDate, 13th April 2020. This topic will address our approach to the diagnosis and management of patients with either an acute coronary syndrome or stable coronary artery disease (CAD) who are suspected of or who have confirmed COVID-19 infection. Our approach and recommendations only apply during the pandemic and are superseded by routine care thereafter. Freely available at: https://www.uptodate.com/contents/coronavirus-disease-2019-covid-19-coronary-artery-disease-issues/topicRef=127551&source=see_link


World Health Organisation


Anaesthetics

Dost, B et al. Attitudes of anesthesiology specialists and residents towards patients infected with novel coronavirus (COVID-19): a national survey study. Surgical Infections, 6th April 2020. [Epub ahead of print]. The COVID-19 pandemic is spreading rapidly worldwide. The incidence of COVID-19 cases is increasing daily, and this disease can cause patient death. Anesthesiology specialists and residents who perform emergency operations on these patients in settings other than intensive care units should follow simple and easy-to-understand algorithms to ensure safety. The provision of theoretical and practical training to healthcare providers before they meet patients will help ensure patient-healthcare provider safety and prevent panic, which can cause distress among healthcare providers. Freely available at: https://www.liebertpub.com/doi/full/10.1089/sur.2020.097?url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org&rfr_dat=cr_pub%3Dpubmed

Biomedical and Biophysics

Henry, BM et al. Hematologic, biochemical and immune biomarker abnormalities associated with severe illness and mortality in coronavirus disease 2019 (COVID-19): a meta-analysis. Clinical Chemistry and Laboratory Medicine, 10th April 2020, [Epub ahead of print]. In this study we aimed to evaluate the discriminative ability of hematologic, biochemical and immunologic biomarkers in patients with and without the severe or fatal forms of COVID-19. Methods An electronic search in Medline (PubMed interface), Scopus, Web of Science and China National Knowledge Infrastructure (CNKI) was performed, to identify studies reporting on laboratory abnormalities in patients with COVID-19. Studies were divided into two separate cohorts for analysis: severity (severe vs. non-severe and mortality, i.e. non-survivors vs. survivors). Data was pooled into a meta-analysis to estimate weighted mean difference (WMD) with 95% confidence interval (95% CI) for each laboratory parameter. Results A total number of 21 studies was included, totaling 3377 patients and 33 laboratory...
parameters. While 18 studies (n = 2984) compared laboratory findings between patients with severe and non-severe COVID-19, the other three (n = 393) compared survivors and non-survivors of the disease and were thus analyzed separately. Patients with severe and fatal disease had significantly increased white blood cell (WBC) count, and decreased lymphocyte and platelet counts compared to non-severe disease and survivors. Biomarkers of inflammation, cardiac and muscle injury, liver and kidney function and coagulation measures were also significantly elevated in patients with both severe and fatal COVID-19. Interleukins 6 (IL-6) and 10 (IL-10) and serum ferritin were strong discriminators for severe disease. Conclusions: Several biomarkers which may potentially aid in risk stratification models for predicting severe and fatal COVID-19 were identified. In hospitalized patients with respiratory distress, we recommend clinicians closely monitor WBC count, lymphocyte count, platelet count, IL-6 and serum ferritin as markers for potential progression to critical illness. Freely available at: https://www.degruyter.com/view/journals/cclm/ahead-of-print/article-10.1515-cclm-2020-0369/article-10.1515-cclm-2020-0369.xml


Both COVID-19 and SARS-CoV belong to the coronavirus family and both invade target cells through ACE2. An in-depth understanding of ACE2 and a series of physiological and physiologic changes caused by the virus invading the human body may help to discover and explain the corresponding clinical phenomena and then deal with them timely. In addition, ACE2 is a potential therapeutic target. This article will summarize the role of ACE2 in multiple organ damage caused by COVID-19 and SARS-CoV, targeted blocking drugs against ACE2, and drugs that inhibit inflammation in order to provide the basis for subsequent related research, diagnosis and treatment, and drug development. Freely available at: https://link.springer.com/article/10.1007/s10096-020-03883-y


The three unprecedented outbreaks of emerging human coronavirus (HCoV) infections at the beginning of the twenty-first century have highlighted the necessity for readily available, accurate and fast diagnostic testing methods. The laboratory diagnostic methods for human coronavirus infections have evolved substantially, with the development of novel assays as well as the availability of updated tests for emerging ones. Newer laboratory methods are fast, highly sensitive and specific, and are gradually replacing the conventional gold standards. This presentation reviews the current laboratory methods available for testing coronaviruses by focusing on the coronavirus disease 2019 (COVID-19) outbreak going on in Wuhan. Viral pneumonias typically do not result in the production of purulent sputum. Thus, a nasopharyngeal swab is usually the collection method used to obtain a specimen for testing. Nasopharyngeal specimens may miss some infections; a deeper specimen may need to be obtained by bronchoscopy. Alternatively, repeated testing can be used because over time, the likelihood of the SARS-CoV-2 being present in the nasopharynx increases. Several integrated, random-access, point-of-care molecular devices are currently under development for fast and accurate diagnosis of SARS-CoV-2 infections. These assays are simple, fast and safe and can be used in the local hospitals and clinics bearing the burden of identifying and treating patients. Freely available at: https://www.tandfonline.com/doi/full/10.1080/22221751.2020.1745095


COVID-19 is a novel coronavirus with an outbreak of unusual viral pneumonia in Wuhan, China, and then pandemic. Based on its phylogenetic relationships and genomic structures the COVID-19 belongs to genera Beta coronavirus. Human Betacoronaviruses (SARS-CoV-2, SARS-CoV, and MERS-CoV) have many similarities, but also have differences in their genomic and phenotypic structure that can influence their pathogenesis. COVID-19 is containing single-stranded (positive-sense) RNA associated with a nucleoprotein within a capsid comprised of matrix protein. A typical CoV contains at least six ORFs in its genome. All the structural and accessory proteins are translated from the sgRNAs of CoVs. Four main structural proteins are encoded by ORFs 10, 11 on the one-third of the genome near the 3' -terminus. The genetic and phenotypic structure of COVID-19 in pathogenesis is important. This article highlights the most important of these features compared to other Betacoronaviruses. Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7138183/
Seven coronaviruses (CoVs) have been isolated from humans so far. Among them, three emerging pathogenic CoVs, including severe acute respiratory syndrome coronavirus (SARS-CoV), Middle East respiratory syndrome coronavirus (MERS-CoV), and a newly identified CoV (2019-nCoV), once caused or continue to cause severe infections in humans, posing significant threats to global public health. SARS-CoV infection in humans (with about 10% case fatality rate) was first reported from China in 2002, while MERS-CoV infection in humans (with about 34.4% case fatality rate) was first reported from Saudi Arabia in June 2012. 2019-nCoV was first reported from China in December 2019, and is currently infecting more than 70000 people (with about 2.7% case fatality rate). Both SARS-CoV and MERS-CoV are zoonotic viruses, using bats as their natural reservoirs, and then transmitting through intermediate hosts, leading to human infections. Nevertheless, the intermediate host for 2019-nCoV is still under investigation and the vaccines against this new CoV have not been available. Although a variety of vaccines have been developed against infections of SARS-CoV and MERS-CoV, none of them has been approved for use in humans. In this review, we have described the structure and function of key proteins of emerging human CoVs, overviewed the current vaccine types to be developed against SARS-CoV and MERS-CoV, and summarized recent advances in subunit vaccines against these two pathogenic human CoVs. These subunit vaccines are introduced on the basis of full-length spike (S) protein, receptor-binding domain (RBD), non-RBD S protein fragments, and non-S structural proteins, and the potential factors affecting these subunit vaccines are also illustrated. Overall, this review will be helpful for rapid design and development of vaccines against the new 2019-nCoV and any future CoVs with pandemic potential. Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7105881/

Cancer and Haematology

Bersanelli, M. Controversies about COVID-19 and anticancer treatment with immune checkpoint inhibitors. Future Medicine, 26th March 2020. [Epub ahead of print].
Clinical decisions about cancer patients deserving immunotherapy in the current context of the COVID-19 pandemic should be characterized by separated reflections, avoiding generalizations and remembering their deeply different immunological status compared with that of cancer patients undergoing chemotherapy or targeted agents. Freely available at: https://www.cambridge.org/core/product/identifier/S0033291720000999/type/journal_article
British Society of Haematology. Guidance regarding iron chelation therapy in patients with haemoglobin disorders or rare anaemias and cardiac iron overload if unwell with presumed or confirmed COVID-19 infection. BSH, 15th April 2020. This is a consensus view on how to manage these high risk patients. Freely available at: https://b-s-h.org.uk/media/18229/iron-chelation-therapy-covid-version-2-150420.pdf


Cardiology

Huang, Z et al. Inhibitors of the renin-angiotensin system: the potential role in pathogenesis of COVID-19. Cardiology Journal, 14th April 2020. [Epub ahead of print]. According to recently published research, it was found that the majority of the severe cases were elderly, and many of them had at least one chronic disease, especially cardiovascular diseases. Angiotensin-converting enzyme inhibitors/angiotensin receptor blockers (ACEIs/ARBs) are the most widely used drugs for cardiovascular diseases. The clinical effect of ACEIs/ARBs on patients with COVID-19 is still uncertain. This paper describes their potential role in the pathogenesis of COVID-19, which may provide useful in the advice of cardiologists and physicians. Freely available at: https://journals.viamedica.pl/cardiology_journal/article/view/68220

Clinical Characteristics, Diagnosis and Testing

Feng, Y et al. COVID-19 with different severity: a multi-center study of clinical features. American Journal of Respiratory and Critical Care Medicine, 10th April 2020. [Epub ahead of print]. Multiple organ dysfunction and impaired immune function were the typical characteristics of severe and critical patients. There was a significant difference in angiotensin-converting enzyme inhibitors/angiotensin II receptor blockers usage among patients with different severities. Involvement of multiple lung lobes and pleural effusion were associated with the severity of COVID-19. Advanced age (≥75 years) was a risk factor for mortality. Freely available at: https://www.atsjournals.org/doi/abs/10.1164/rccm.202002-0445OC#readcube-epdf

Kong, WH et al. SARS-CoV-2 detection in patients with influenza-like illness. Nature Microbiology, 7th April 2020. Coronavirus disease 2019 (COVID-19), caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was first reported in Wuhan, Hubei Province, China in late December 2019. We re-analysed 640 throat swabs collected from patients in Wuhan with influenza-like illness from 6 October 2019 to 21 January 2020 and found that 9 of the 640 throat swabs were positive for SARS-CoV-2 RNA by quantitative PCR, suggesting community transmission of SARS-CoV2 in Wuhan in early January 2020. Freely available at: https://www.nature.com/articles/s41564-020-0713-1

Khurshid, Z, Asiri, FYI and Al Wadaani, H. Human saliva: non-invasive fluid for detecting novel coronavirus (2019-nCoV) International Journal of Environmental Research and Public Health, 17 (7), 2020. Online. The breakthrough of novel coronavirus (2019-nCoV) in Wuhan, a city of China, has damaged the status of health and quality of life. In the sequel of this epidemic or contagious disease, the patient experiences fever, chest paint, chills, a rapid heartbeat, breathing difficulties, pneumonia, and kidney failure. It has been suggested that this disease can
spread through human-to-human transmission or by super spreading. By the help of the non-invasive fluid "saliva", it is easy to detect the virus. This can help with the comfort of the patient as well as healthcare personnel. Under this perspective, we discuss the epidemic situation of 2019-nCOV and its relationship with human saliva. Freely available at: https://www.mdpi.com/1660-4601/17/7/2225/htm

Liu, J et al. Detection of SARS-CoV-2 by RE-PCR in anal from patients who have recovered from coronavirus disease 2019. Journal of Medical Virology, 14th April 2020. [Epub ahead of print]. The real-time reverse- transcriptase polymerase - chain - reaction (RT - PCR) method can be used for the detection of SARS-CoV-2 in oral swabs. Now, results have confirmed the presence of the live virus in stool samples from patients with COVID-19. This article is protected by copyright. All rights reserved. Freely available at: https://onlinelibrary.wiley.com/doi/abs/10.1002/jmv.25875

Containment, Transmission and Isolation

Bourouiba, A. Turbulent gas clous and respiratory pathogen emissions – potential implications for reducing transmission of COVID-19. JAMA Insights, 26th March 2020. [Epub ahead of print]. The rapid spread of COVID-19 highlights the need to better understand the dynamics of respiratory disease transmission by better characterizing transmission routes, the role of patient physiology in shaping them, and best approaches for source control to potentially improve protection of front-line workers and prevent disease from spreading to the most vulnerable members of the population. Freely available at: https://jamanetwork.com/journals/jama/fullarticle/2763852

Guo, ZD et al. Aerosol and surface distribution of severe acute respiratory syndrome coronavirus 2 in hospital wards, Wuhan, China, 2020. Emerging Infectious Diseases, 26 (70), 2020. [Epub ahead of print]. To determine distribution of severe acute respiratory syndrome coronavirus 2 in hospital wards in Wuhan, China, we tested air and surface samples. Contamination was greater in intensive care units than general wards. Virus was widely distributed on floors, computer mice, trash cans, and sickbed handrails and was detected in air ≈4 m from patients. Freely available at: https://wwwnc.cdc.gov/eid/article/26/7/20-0885_article

Wu, JT et al. Estimating clinical severity of COVID-19 from transmission dynamics in Wuhan, China. Nature Medicine, 26 (4), 2020, pp. 506-510. [Online]. A key public health priority during the emergence of a novel pathogen is estimating clinical severity, which requires properly adjusting for the case ascertainment rate and the delay between symptoms onset and death. Using public and published information, we estimate that the overall symptomatic case fatality risk (the probability of dying after developing symptoms) of COVID-19 in Wuhan was 1.4% (0.9-2.1%), which is substantially lower than both the corresponding crude or naïve confirmed case fatality risk (2,169/48,557 = 4.5%) and the approximator 7 of deaths/deaths + recoveries (2,169/2,169 + 17,572 = 11%) as of 29 February 2020. Compared to those aged 30-59 years, those aged below 30 and above 59 years were 0.6 (0.3-1.1) and 5.1 (4.2-6.1) times more likely to die after developing symptoms. The risk of symptomatic infection increased with age (for example, at ~4% per year among adults aged 30-60 years). Freely available at: https://www.nature.com/articles/s41591-020-0822-7

Critical and Intensive Care

Intensive Care Society. Guidance for prone positioning of the conscious COVID-19 patient 2020. 13th April 2020. The COVID-19 pandemic has seen the critical care community treating increasing numbers of patients with ARDS over recent weeks, with one Chinese study reporting the prevalence of hypoxic respiratory failure in these patients at around 19%. Approximately 5% of all COVID-19 patients will require mechanical ventilation on an intensive care unit, with a further 14% requiring oxygen therapy. Freely available at: https://icmanaesthetiaccovid-19.org/news/ics-guidance-for-prone-positioning-of-the-conscious-covid-patient-2020

This is the third novel coronavirus outbreak in the last two decades and presents an ensuing healthcare resource burden that threatens to overwhelm available healthcare resources. A study of the initial Chinese response has shown that there is a significant positive association between COVID-19 mortality and healthcare resource burden. Based on the Chinese experience, some 19% of COVID-19 cases develop severe or critical disease. This results in a need for adequate preparation and mobilisation of critical care resources to anticipate and adapt to a surge in COVID-19 case-load in order to mitigate morbidity and mortality. In this article we discuss some of the peri-operative and critical care resource planning considerations and management strategies employed in a tertiary academic medical centre in Singapore in response to the COVID-19 outbreak. Freely available at: [https://onlinelibrary.wiley.com/doi/10.1111/anae.15074](https://onlinelibrary.wiley.com/doi/10.1111/anae.15074)


The summary identifies the following issues raised in the ITU in China: severe shortage of critical medical resources including physicians, nurses and ICU beds; the level of intensive care medicine in different provinces are uneven; to focus medical resources on rescuing large numbers of Covid-19 patient, many non-Covid-19 patients are unable to receive effective treatment; medical staff in Wuhan City from other provinces or cities were unfamiliar with the local conditions and the early phase of rescuing was in unordered states; lack of protection awareness and equipment early, many physicians or nurses were infected by SARS-CoV-2; the continuous recognition of Covid-19 by Chinese intensive care physicians is a 'long and deepening process' Covid-19 patients usually are complicated with multiple organ failure; the timing, dose and duration of many therapies or life support for Covid-19 still remain controversial; the published studies mostly single-centered and retrospective – it is difficult to integrate clinical, basic and public health data and critical patients obtain multi-disciplinary expert team consultation through a national video remote consultation platform during Covid-19. Freely available at: [https://wwwnc.cdc.gov/eid/article/26/7/20-0885_article](https://wwwnc.cdc.gov/eid/article/26/7/20-0885_article)


NEWS2 should be used when managing patients with COVID 19. The use of NEWS2 will ensure that patients who are deteriorating, or at risk of deteriorating, will have a timely initial assessment by a competent clinical decision maker. NEWS2 should supplement clinical judgement in assessing the patient’s condition. Freely available at: [https://www.rcplondon.ac.uk/news/news2-and-deterioration-covid-19](https://www.rcplondon.ac.uk/news/news2-and-deterioration-covid-19)

**Ear, Nose and Throat**

Cheng, X et al. **Otolaryngology providers must be alert for patients with mild and asymptomatic COVID-19.** Otolaryngology - Head and Neck Surgery, 14th April 2020. [Epub ahead of print].

More than half of COVID-19 patients are afebrile early in the disease course, yet mildly ill or asymptomatic patients can still spread SARS-CoV-2 with high efficiency. Atypically presenting patients may be seen in noninfectious disease settings such as otolaryngology, which is a specialty prone to occupational exposure. Otolaryngologists have been infected with COVID-19 at higher rates than other specialties in China and other countries. Otolaryngology providers should maintain high clinical suspicion for mild and asymptomatic COVID-19 patients. Protective strategies should be implemented including preappointment screening, triaging, restriction of non urgent visits and surgeries, telemedicine, and appropriate personal protective equipment use. Freely available at: [https://journals.sagepub.com/doi/10.1177/0194599820920649](https://journals.sagepub.com/doi/10.1177/0194599820920649)

**Endocrine and Diabetes**


Considering the high proportion of critically ill patients with diabetes or hyperglycemia, the difficulty for treatment and high mortality rate, effective diabetes management under epidemic conditions is extremely important. In order to increase disease awareness and improve the prognosis and outcome of patients with diabetes, better understanding of the etiological associations between COVID-19 and diabetes, the clinical impact of COVID-19 on diabetes, and proposing detailed recommendations for prevention and treatment are needed. Freely available at: [https://onlinelibrary.wiley.com/doi/full/10.1111/1753-0407.13036](https://onlinelibrary.wiley.com/doi/full/10.1111/1753-0407.13036)
Ethics and the Law


Professionals are considering the prioritisation of patients most likely to survive over those with remote chances, and this news has triggered an intense debate about the right of every individual to access healthcare. The proposed analysis suggests that the national emergency framework in which prioritisation criteria are currently enforced should not lead us to perceive scarce resources allocation as something new. From an ethical perspective, the novelty of the current emergency is not grounded in the devastating effects of scarce resources allocation, which is rife in recent and present clinical practice. Rather, it has to do with the extraordinarily high number of people who find themselves personally affected by the implications of scarce resources allocation and who suddenly realise that the principle of ‘equals should be treated equally’ may no longer be applicable. Along with the need to allocate appropriate additional financial resources to support the healthcare system, and thus to mitigate the scarcity of resources, the analysis insists on the relevance of a medical ethics perspective that does not place the burden of care and choice solely on physicians. Freely available at: https://jme.bmj.com/content/early/2020/04/09/medethics-2020-106227.long


We aren't living in normal times and all sorts of new and essential measures are taking place in the NHS to make sure that we can handle the COVID-19 crisis properly. The NHS is facing enormous challenges and staff are making heroic efforts. Patient safety issues, however, must never be forgotten and underestimated even in a crisis. When the pandemic dust eventually settles people will start to reflect on what has happened, this is basic human nature. Some people may feel that they or their loved ones were treated improperly during the crisis and seek redress, raising the spectre of litigation. Patient safety and the spectre of litigation will not go away. Patients who have suffered negligent harm have a moral and legal right to sue for compensation. This right should never be compromised. However, a key issue remains of what happens when the patient’s harm did not occur in normal times, but in the COVID-19 crisis? That the harm has occurred in a crisis is likened to a war zone. Freely available at: https://www.magonlinelibrary.com/doi/pdf/10.12968/bjon.2020.29.7.444

Gastroenterology


The article discusses the ramifications of coronavirus and the guidelines available to professionals working in gastroenterology. Freely available at: https://www.magonlinelibrary.com/doi/pdf/10.12968/bjon.2020.29.7.390


As the natural history and variety of clinical presentations of this disease unfolds, the extrapulmonary symptoms of the disease have emerged, especially the symptoms related to the digestive system. While the respiratory mode of transmission is well-known and likely the principal mode of transmission of this disease, the possibility of the fecal-oral route of transmission has also emerged in various case series and clinical scenario. In this review article, we summarized the published literatures to date concerning four different aspects: (a) gastrointestinal manifestations of COVID-19 infection; (b) microbiologic and virological investigations; (c) the role of fecal-oral transmission; and (d) prevention/control infection in the digestive endoscopy room. A timely understanding of the relationship between the disease and the digestive system and implementing effective preventive measures are of great significance for a favorable outcome of the disease and can help mitigate further transmission by appropriate measures. Freely available at: https://onlinelibrary.wiley.com/doi/abs/10.1111/1751-2980.12862
Infection Control and Prevention


COVID-19 is now a global health threat and the number of confirmed reports of new cases and deaths is increasing every day. Since the SARS-CoV-2 can remain in the air and on surfaces for several hours to several days, in addition to observing individual hygiene tips such as regular hand washing and avoiding contact, use of negative pressure ventilation in hospital sectors, open space, the face mask wearing in the crowded areas, disinfection of frequently touched surfaces is required to reduce SARS-CoV-2 spreading through of aerosol. however, it is clear that hand hygiene compliance and isolation or quarantine alone cannot prevent the spread of SARS-CoV-2. Therefore, further research needs to be done to increase knowledge about the structural and pathogenic features of SARS-CoV-2 and to find effective therapies and vaccines to control this disease. Freely available at: https://www.infezmed.it/media/journal/Vol_28_2_2020_8.pdf

Liver and Hepatic Diseases


The clinical features and outcomes of Chinese patients with COVID-19 have been widely reported. Increasing evidence has witnessed the frequent incident liver injury in COVID-19 patients, and it is often manifested as transient elevation of serum aminotransferases; however, the patients seldom have liver failure and obvious intrahepatic cholestasis, unless pre-existing advanced liver disease was present. The underlying mechanisms of liver injury in cases of COVID-19 might include psychological stress, systemic inflammation response, drug toxicity, and progression of pre-existing liver diseases. However, there is insufficient evidence for SARS-CoV-2 infected hepatocytes or virus-related liver injury in COVID-19 at present. The clinical, pathological and laboratory characteristics as well as underlying pathophysiology and etiology of liver injury in COVID-19 remain largely unclear.

In this review, we highlight these important issues based on the recent developments in the field, for optimizing the management and treatment of liver injury in Chinese patients with COVID-19. Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7132021/


Annually, around 850 liver transplantation is performed in Beijing, China. Recently, the new coronavirus pneumonia (COVID-19) caused by 2019 novel coronavirus (2019-nCoV) has affected nearly 200 countries worldwide. 2019-nCoV can cause severe lung disease, multiple-organ damage, and significant mortalities. Liver transplant recipients, because of long-term oral immunosuppressant effects, may be more susceptible to 2019-nCoV infection and have a worse prognosis than the general population. It is urgent to set up guidelines for the prevention, diagnosis, and treatment of COVID-19 in liver transplant recipients. In this article, we reviewed the clinical aspects of 2019-nCoV infection, characteristics of liver transplant recipients, immunosuppressant usage, and potential drug interactions to provide recommendations to clinical staff managing liver transplant recipients during the COVID-19 epidemic. Freely available at: https://link.springer.com/article/10.1007/s12072-020-10043-z

Mental Health


This study found that most clinically stable COVID-19 patients suffered from significant posttraumatic stress symptoms prior to discharge. Considering the negative detrimental impact of significant posttraumatic stress symptoms, appropriate crisis psychological interventions and long-term follow up assessments should be urgently initiated for COVID-19 survivors. Freely available at: https://www.cambridge.org/core/product/identifier/S0033291720000999/type/journal_article

Covid-19 Evidence Update, Issue 4 17th April 2020

Our psychological support and adjustments may help buffer the negative impact of stress. In addition, we have to acknowledge that in such an emergency situation with a shortage of medical staff and resources, many doctors and nurses are overworking extensively. We suggest monitoring the physical and psychological needs and wellbeing of medical workers in similar situations, and then adjusting their working schedules and formulating psychosocial interventions accordingly. Freely available at: [https://www.karger.com/Article/FullText/507453](https://www.karger.com/Article/FullText/507453)

Nguyen, HC et al. **People with suspected COVID-19 symptoms were more likely depressed and had low health-related quality of life: the potential benefit of health literacy.** Journal of Clinical Medicine, 9 (4), 2020, pp. 965. [Online].

Clinical decisions about cancer patients deserving immunotherapy in the current context of the COVID-19 pandemic should be characterized by separated reflections, avoiding generalizations and remembering their deeply different immunological status compared with that of cancer patients undergoing chemotherapy or targeted agents. Freely available at: [https://www.mdpi.com/2077-0383/9/4/965](https://www.mdpi.com/2077-0383/9/4/965)


The Coronavirus Disease 2019 (COVID-19) epidemic emerged in Wuhan, China, spread nationwide and then onto half a dozen other countries between December 2019 and early 2020. The implementation of unprecedented strict quarantine measures in China has kept a large number of people in isolation and affected many aspects of people’s lives. It has also triggered a wide range of psychological problems, such as panic disorder, anxiety and depression. This study is the first nationwide large-scale survey of psychological distress in the general population of China during the COVID-19 epidemic. Freely available at: [https://gpsych.bmj.com/content/33/2/e100213](https://gpsych.bmj.com/content/33/2/e100213)


This study was performed to assess the knowledge and attitudes of medical staff in two Chinese mental health centers during the COVID-19 outbreak. We included 141 psychiatrists and 170 psychiatric nurses in the study. We found that during the COVID-19 epidemic, 89.51% of the medical staff of the psychiatric hospitals studied had extensive knowledge of COVID-19, and 64.63% of them received the relevant training in hospitals. Furthermore, about 77.17% of participants expressed a willingness to care for psychiatric patients suffering from COVID-19 virus infection. Independent predictors of willingness to care for patients included advanced training and experience of caring for patients with COVID-19. In conclusion, this study suggests that increased attention should be paid to the knowledge and attitudes of medical staff at psychiatric hospitals. Freely available at: [https://www.sciencedirect.com/science/article/pii/S2666354620300296?via%3Dihub](https://www.sciencedirect.com/science/article/pii/S2666354620300296?via%3Dihub)


An online survey was distributed through a social media platform between January and February 2020. The majority of participants (53.3%) did not feel helpless due to the pandemic. On the other hand, 52.1% of participants felt horrified and apprehensive due to the pandemic. Freely available at: [https://www.mdpi.com/1660-4601/17/7/2381](https://www.mdpi.com/1660-4601/17/7/2381)

## Neurological

Mao, L. **Neurologic manifestations of hospitalized patients with coronavirus disease 2019 in Wuhan, China.** JAMA Neurology, 10th April 2020. [Epub ahead of print].

Patients with COVID-19 commonly have neurologic manifestations. During the epidemic period of COVID-19, when seeing patients with neurologic manifestations, clinicians should suspect severe acute respiratory syndrome coronavirus 2 infection as a differential diagnosis to avoid delayed diagnosis or misdiagnosis and lose the chance to treat and prevent further transmission. Freely available at: [https://jamanetwork.com/journals/jamaneurology/fullarticle/2764549](https://jamanetwork.com/journals/jamaneurology/fullarticle/2764549)

Covid-19 Evidence Update, Issue 4 17th April 2020
Nursing

Yifan, T et al. Symptom cluster of ICU nurses treating COVID-19 pneumonia patients in Wuhan, China. Journal of Pain and Symptom Management, 7th April, 2020. [Epub ahead of print]. In treating highly infectious COVID-19 pneumonia, ICU nurses face a high risk of developing somatic symptom disorder (SSD). The present study aims to investigate the symptoms and causes of SSD of ICU nurses treating COVID-19 pneumonia. The research results are expected to provide evidence for the establishment of a better management strategy. The ICU nurses in Wuhan showed varying and overlapping SSDs. These SSDs could be classified into three symptom clusters. Based on the characteristics of their SSDs, specific interventions could be implemented to safeguard the health of ICU nurses. Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7141465/

Obstetrics and Gynaecology

Chen, Y et al. Infants born to mothers with a new coronavirus (COVID-19). Frontiers in Pediatrics, 16th March 2020. [Online]. A novel viral respiratory disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is responsible for an epidemic of the coronavirus disease 2019 (COVID-19) in cases in China and worldwide. Four full-term, singleton infants were born to pregnant women who tested positive for COVID-19 in the city of Wuhan, the capital of Hubei province, China, where the disease was first identified. Of the three infants, for who consent to be diagnostically tested was provided, none tested positive for the virus. None of the infants developed serious clinical symptoms such as fever, cough, diarrhea, or abnormal radiologic or hematologic evidence, and all four infants were alive at the time of hospital discharge. Two infants had rashes of unknown etiology at birth, and one had facial ulcerations. One infant had tachypnea and was supported by non-invasive mechanical ventilation for 3 days. One had rashes at birth but was discharged without parental consent for a diagnostic test. This case report describes the clinical course of four live born infants, born to pregnant women with the COVID-19 infection. Freely available at: https://www.frontiersin.org/articles/10.3389/fped.2020.00104/full

Ophthalmology

Yu, AY et al. A comprehensive Chinese experience against SARS-CoV-2 in ophthalmology – a review. Eye and Vision, 7th April 2020. [Online]. Several investigations have been conducted to identify whether COVID-19 can be transmitted through the ocular route, and the conclusion is that it is a potential route but remains uncertain. Due to the face-to-face communication with patients, frequent exposure to tears and ocular discharge, and the unavoidable use of equipment which requires close proximity, ophthalmologists carry a high risk of contracting severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Based on 33 articles published by Chinese scholars, guidelines and clinical practice experience in domestic hospitals, we have summarized the Chinese experience through the lens of ophthalmology, hoping to make a contribution to protecting ophthalmologists and patients around the world. Freely available at: https://eandv.biomedcentral.com/articles/10.1186/s40662-020-00187-2

Paediatric and Neonatal Care

Association of Paediatric Emergency Medicine (APEM). COVID-19: guidance for acute settings. APEM, 14th April 2020. This provides guidance for paediatric emergency and acute settings. It has been produced with the Association of Paediatric Emergency Medicine (APEM) and the British Paediatric Allergy, Immunity and Infection Group (BPAIIG). Freely available at: https://www.rcpch.ac.uk/resources/covid-19-guidance-acute-settings

British Association of Perinatal Medicine. COVID-19 guidance for neonatal settings. BAPM, 14th April 2020. This guidance provides guidance for neonatal settings. It has been produced with the British Association of Perinatal Medicine (BAPM). Freely available at: https://www.rcpch.ac.uk/resources/covid-19-guidance-neonatal-settings#general-principles
In order to help facilitate the best possible care for children with COVID-19, we sought to aggregate and rapidly review all of the original research being produced pertinent to children, making it available to everyone. Speed has been essential, and in order to keep pace with the rapid production of new evidence, we have proceeded with informal, rapid, evidence synthesis. There have been a handful of studies which were obtained and deemed not suitable for inclusion, due to poor quality or patient overlap. Freely available at: https://dontforgetthebubbles.com/wp-content/uploads/2020/04/COVID-data-1.pdf


The aim of this study was to provide evidence-based estimates of children infected with SARS-CoV-2 and projected cumulative numbers of severely ill pediatric COVID-19 cases requiring hospitalization during the US 2020 pandemic. Freely available at: https://journals.lww.com/jphmp/Abstract/publishahead/COVID_19_in_Children_in_the_United_States_.99293.aspx

Royal College of Paediatrics and Child Health. COVID-19 guidance for the community setting. RCPCH, 9th April 2020. The operational guidance includes minimising potential exposure to COVID-19 for patient and practitioner ... and the role of community care in supporting the NHS response to COVID-19 (England). The clinical guidance includes the isolation of children from household members and other health professionals, and how to manage suspected cases in the clinic, educational settings and residential settings and during home visits. Freely available at: https://www.rcpch.ac.uk/resources/covid-19-guidance-community-settings

Thampi, S et al. Special considerations for the management of COVID-19 pediatric patients in the operating room and pediatric intensive care unit in a tertiary hospital in Singapore. Paediatric Anaesthesia, 8th April 2020. [Epub ahead of print].

The pediatric population has been found to be less susceptible to the disease with the majority of children having milder symptoms and only one pediatric death being reported globally so far. Despite this, strategies need to be put in place to prevent further spread of the virus. We present a summary of the general measures implemented at a large adult and pediatric tertiary hospital in Singapore (National University Hospital) as well as the specific strategies in place for the operating room and pediatric intensive care unit. Freely available at: https://onlinelibrary.wiley.com/doi/abs/10.1111/pan.13863

Palliative and End of Life Care


Faculty of Intensive Care Medicine. Confirmation of death in a positive or suspected Covid 19 patient. FICM, 14th April 2020.

If a patient dies and is in a Covid positive or suspected Covid area, this death needs to be confirmed by a medical practitioner or other appropriately trained competent adult. In order to reduce patient contact to a minimum, the person confirming death will not need to auscultate the heart. In a critical care environment having ECG confirmation of at least 5 minutes of asystole will be sufficient along with a central pulse check and confirmation of apnoea and dilated pupils. Freely available at: https://www.ficm.ac.uk/sites/default/files/confirmation_of_death.pdf
Pathology and Autopsy

The severe acute respiratory syndrome (SARS)-coronavirus-2 (CoV-2) outbreak in Wuhan, China has now spread to many countries across the world including the UK with an increasing death toll. This will inevitably lead to an increase in the number of suspected coronavirus disease 2019 (COVID-19)-related deaths at autopsy. The Royal College of Pathologists has responded to this concern with the release of a briefing on autopsy practice relating to COVID-19. The following article is a summary and interpretation of these guidelines. It includes a description of hazard group 3 organisms, the category to which SARS-CoV-2 has been assigned, a brief description of what is currently known about the pathological and autopsy findings in COVID-19, a summary of the recommendations for conducting autopsies in suspected COVID-19 cases and the techniques for making the diagnosis at autopsy. It concludes by considering the clinicopathological correlation and notification of such cases. Freely available at: https://jcp.bmj.com/content/jclinpath/early/2020/04/01/jclinpath-2020-206522.full.pdf

Pharmacy

Facing public health emergencies, clinical pharmacists can give full play to their professional expertise, analyze the current situation rationally, formulate telehealth strategies swiftly, and work in a united and efficient manner to provide innovative pharmacy services to ensure medication safety and rational use of medicine. Freely available at: https://www.sciencedirect.com/science/article/pii/S1551741120303284?via%3Dihub

This guidance has been developed to support pharmacists and registered pharmacy technicians faced with making difficult decisions linked to the exceptional impact of Covid-19. Freely available at: https://www.rpharms.com/Portals/0/RPS%20document%20library/Open%20access/Coronavirus/00239%20001a%202004%20COVID19%20Ethical%20guide%20document%20WEB.pdf

The need of pharmaceutical care services in COVID-19 hospitalized patients during this pandemic was quite distinguished from the past. Hospital pharmacists shall join the collaborative multidisciplinary team to improve COVID-19 patients' outcome and reduce mortality, and to facilitate the pandemic control. Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7129111/

As the number of cases of COVID-19 (SARS-CoV-2) rise in the United States (US), the number of severe cases (those requiring ICU admission) rise with it. Initially, the estimate for severe cases was approximated at 5% based on experience from China. However, the World Health Organization's (WHO) estimate from China for severe and critical cases is near 20% (Table). The primary clinical feature of COVID-19 is pneumonia, the severity of which directs the clinical course; it has been estimated that, of patients admitted to the ICU, up to half may require either invasive or non-invasive ventilatory support. This has created an unprecedented situation for emergency and critical care medicine. Freely available at: https://accpjournals.onlinelibrary.wiley.com/doi/abs/10.1002/phar.2394
Radiology

The purpose of the study was to report the epidemiological, clinical, and radiological characteristics of patients with COVID-19 in Xiaogan, Hubei, China. Spiral CT is a sensitive examination method, which can be applied to make an early diagnosis and for evaluation of progression, with a diagnostic sensitivity and accuracy better than that of nucleic acid detection. Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7118637/

Zhang, R et al. CT features of SARS-CoV2 pneumonia according to clinical presentation: a retrospective analysis of 120 consecutive patients in Wuhan city. European Radiology, 11th April 2020. [Epub ahead of print]. The clinical and CT features at admission may enable clinicians to promptly evaluate the prognosis of patients with SARS-CoV-2 pneumonia. Clinicians should be aware that clinically silent cases may present with CT features similar to those of symptomatic common patients. Freely available at: https://link.springer.com/article/10.1007/s00330-020-06854-1

Renal/Urology

An ongoing outbreak of pneumonia associated with the severe acute respiratory coronavirus 2 (SARS-CoV-2) started in Wuhan, China, with cases now confirmed in multiple countries. The clinical course of patients remains to be fully characterized, clinical presentation ranges from asymptomatic infection to acute respiratory distress syndrome and acute renal failure. no pharmacological therapies of proven efficacy yet exist. We report a case of SARS-CoV-2 infection in a renal transplant recipient with excellent outcome. This case states the importance of close monitoring of the concentration of ciclosporin in patients treated with lopinavir/ritonavir, routine treatment of corticosteroid can be continued. This is a rare report of SARS-CoV-2 infection in a renal transplant recipient. Further data are needed to achieve better understanding of the impact of immunosuppressive therapy on the clinical presentation, severity and outcome of SARS-CoV-2 infections in solid organ transplant recipients. Freely available at: https://onlinelibrary.wiley.com/doi/abs/10.1111/ajt.15897

Respiratory

Cai, Y et al. COVID-19 in the perioperative period of lung resection: a brief report from a single thoracic surgery department in Wuhan, China. Journal of Thoracic Oncology, 11th April 2020. [Epub ahead of print]. Clinical information on patients contracted with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in the perioperative period is limited. Here we report seven cases who were confirmed infected with SARS-CoV-2 in the perioperative period of lung resection. Retrospective analysis suggested that one patient had been infected with the SARS-CoV-2 prior to the surgery, the other 6 patients contracted the infection after the lung resection. Fever, lymphopenia and ground-glass opacities on computerized tomography (CT) are the most common clinical manifestations of COVID-19 in patients after lung resection surgery. Pathology studies of the specimens of these 7 patients were performed. The pathological examination of Patient 1, who was infected the SARS-CoV-2 before the surgery, revealed that apart from the tumor, there was a wide range of interstitial inflammation with plasma cells and macrophages infiltration. High density of macrophages and foam cells in the alveolar cavities but no obvious proliferation of pneumocyte was found. Three out seven patients died from COVID-19 pneumonia, suggesting that lung resection surgery might be a risk factor for death in patients with COVID-19 in the perioperative period. Freely available at: https://www.jto.org/article/S1556-0864(20)30298-7/fulltext`

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) with droplets and contact as the main means of transmission. Since the first case
appeared in Wuhan, China, in December 2019, the outbreak has gradually spread nationwide. Up to now, according to official data released by the Chinese health commission, the number of newly diagnosed patients has been declining, and the epidemic is gradually being controlled. Although most patients have mild symptoms and good prognosis after infection, some patients developed severe and die from multiple organ complications. The pathogenesis of SARS-CoV-2 infection in humans remains unclear. Immune function is a strong defense against invasive pathogens and there is currently no specific antiviral drug against the virus. This article reviews the immunological changes of coronaviruses like SARS, MERS and other viral pneumonia similar to SARS-CoV-2. Combined with the published literature, the potential pathogenesis of COVID-19 is inferred, and the treatment recommendations for giving high-doses intravenous immunoglobulin and low-molecular-weight heparin anticoagulant therapy to severe type patients are proposed. Freely available at: https://www.tandfonline.com/doi/full/10.1080/22221751.2020.1746199

Surgery

The editorial board would also like to encourage surgeons to share their knowledge and experience in treating patients who are suffering from the effects of COVID-19. We would like to invite clinicians across the world, particularly in those countries most severely affected by the pandemic, to publish their experiences. Specifically, we wish to highlight the effect the COVID-19 pandemic has had on performing surgery as well as clinicians’ experiences in limiting the spread of COVID-19 in operating theatres. Accompanying images and videos are highly encouraged though not a requirement. In addition, the Journal of Surgical Case Reports will be publishing invited leading articles from international surgeons on various aspects of the COVID-19 pandemic and its effect on the provision of surgical care. Freely available at: https://academic.oup.com/jscr/article/2020/4/rjaa087/5816562

Treatment and Vaccines

This review aimed to summarize and analyze the herbal formulae provided by the guidelines for their pattern identifications (PIs) and compositions of herbs to treat patients with COVID-19. Freely available at: https://www.sciencedirect.com/science/article/pii/S2213422020300391?via%3Dihub

Arnold, SL and Buckner, F. Hydroxychloroquine for treatment of SARS-CoV-2 infection? Improving our confidence in a model-based approach to dose selection. Clinical and Translational Science, 8 th April 2020, [Epub ahead of print]. In less than six months, COVID-19 has spread from a marketplace in Wuhan, China to over 150 countries and territories of the world. Therapeutics are desperately needed to reduce the morbidity and mortality of this pandemic disease. It has been reported that hydroxychloroquine (HCQ) is active against SARS-CoV-2 in vitro, and this finding was quickly supported by an open label non-randomized clinical trial that provided the first published clinical evidence HCQ may be a treatment option. Freely available at: https://ascp.library.wiley.com/doi/abs/10.1111/cts.12797

Three leading infectious disease experts in China were invited to share their bedside observations in the management of COVID-19 patients. Professor Taisheng Li was sent to Wuhan to provide frontline medical care. He depicts the clinical course of SARS-CoV-2 infection. Furthermore, he observes the significant abnormality of coagulation function and proposes that the early intravenous immunoglobulin and low molecular weight heparin anticoagulation therapy are very important. Professor Hongzhou Lu, a leader in China to try various anti-viral drugs, expresses concern on the quality of the ongoing clinical trials as most trials are small in scale and repetitive in nature, and emphasizes the importance of the quick publication of clinical trial results. Regarding the traditional Chinese medicine, Professor Lu suggests to develop a creative evaluation system because of the complicated chemical compositions. Professor Wenhong Zhang is responsible for Shanghai's overall clinical management of the COVID-19 cases. He introduces the
A team approach to manage COVID-19 patients. For severe or critically ill patients, in addition to the respiratory supportive treatment, timely multiorgan evaluation and treatment is very crucial. The medical decisions and interventions are carefully tailored to the unique characteristics of each patient. Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7103696/


The following sources have been searched for evidence published in the previous week.

- American Journal of Medicine
- BMJ
- BMJ Best Practice
- CEBM Oxford
- Cochrane Library
- Google Scholar
- HDAS Databases (Medline, Cinahl etc)
- JAMA
- KnowledgeShare
- LIMedical
- Medscape
- New England Journal of Medicine
- NICE Evidence
- NHS Networks
- PubMed
- SCIE
- The Lancet
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We hope you find this newsletter useful. Suggestions or comments? E-mail The Editor

If you require a search for information or knowledge with respect to a particular group of patients (e.g. pregnant or elderly, with asthma or psychological illness) please do let us know and we will endeavour to search for you.

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