

"Year: 2020

Author: Thompson, Robin N.

Title: Novel Coronavirus Outbreak in Wuhan, China, 2020: Intense Surveillance Is Vital for Preventing Sustained Transmission in New Locations

Journal: J Clin Med

DOI: 10.3390/jcm9020498

Abstract: The outbreak of pneumonia originating in Wuhan, China, has generated 24,500 confirmed cases, including 492 deaths, as of 5 February 2020. The virus (2019-nCoV) has spread elsewhere in China and to 24 countries, including South Korea, Thailand, Japan and USA. Fortunately, there has only been limited human-to-human transmission outside of China. Here, we assess the risk of sustained transmission whenever the coronavirus arrives in other countries. Data describing the times from symptom onset to hospitalisation for 47 patients infected early in the current outbreak are used to generate an estimate for the probability that an imported case is followed by sustained human-to-human transmission. Under the assumptions that the imported case is representative of the patients in China, and that the 2019-nCoV is similarly transmissible to the SARS coronavirus, the probability that an imported case is followed by sustained human-to-human transmission is 0.41 (credible interval [0.27, 0.55]). However, if the mean time from symptom onset to hospitalisation can be halved by intense surveillance, then the probability that an imported case leads to sustained transmission is only 0.012 (credible interval [0, 0.099]). This emphasises the importance of current surveillance efforts in countries around the world, to ensure that the ongoing outbreak will not become a global pandemic.

URL: <https://doi.org/10.3390/jcm9020498>

Categories: ****must reads**; Epidemiology

"Year: 2020

Author: Wei, Min Yuan, Jingping Liu, Yu Fu, Tao Yu, Xue Zhang, Zhi-Jiang

Title: Novel Coronavirus Infection in Hospitalized Infants Under 1 Year of Age in China

Journal: JAMA

DOI:

Abstract: Previous studies suggest that COVID-19 is more likely to infect older adult men, particularly those with chronic comorbidities.²⁻⁴ Few infections in children have been reported. We identified all infected infants in China and described demographic, epidemiologic, and clinical features.

URL: <https://doi.org/10.1001/jama.2020.2131>

Categories: ****must reads**; Case study/case series; Clinical care and treatment

"Year: 2020

Author: Chen, Y.; Liu, Q.; Guo, D.

Title: Emerging coronaviruses: Genome structure, replication, and pathogenesis

Journal: Journal of Medical Virology

DOI: 10.1002/jmv.25681

Abstract: The recent emergence of a novel coronavirus (2019-nCoV), which is causing an outbreak of unusual viral pneumonia in patients in Wuhan, a central city in China, is another warning of the risk of CoVs posed to public health. In this minireview, we provide a brief introduction of the general features of CoVs and describe diseases caused by different CoVs in humans and animals. This review will help understand the biology and potential risk of CoVs that exist in richness in wildlife such as bats.

URL: <https://doi.org/10.1002/jmv.25681>

Categories: Narrative review; Reservoir

"Year: 2020

Author: Colson, Philippe; Rolain, Jean-Marc; Raoult, Didier

Title: Chloroquine for the 2019 novel coronavirus

Journal: International Journal of Antimicrobial Agents

DOI: <https://doi.org/10.1016/j.ijantimicag.2020.105923>

Abstract:

URL: <https://doi.org/10.1016/j.ijantimicag.2020.105923>

Categories: Clinical care and treatment; Opinion piece

"

"Year: 2020

Author: de Wit, Emmie; Feldmann, Friederike; Cronin, Jacqueline; Jordan, Robert; Okumura, Atsushi; Thomas, Tina; Scott, Dana; Cihlar, Tomas; Feldmann, Heinz

Title: Prophylactic and therapeutic remdesivir (GS-5734) treatment in the rhesus macaque model of MERS-CoV infection

Journal: Proc Natl Acad Sci U S A

DOI: <http://doi.org/10.1073/pnas.1922083117>

Abstract: The continued emergence of Middle East Respiratory Syndrome (MERS) cases with a high case fatality rate stresses the need for the availability of effective antiviral treatments. Remdesivir (GS-5734) effectively inhibited MERS coronavirus (MERS-CoV) replication in vitro, and showed efficacy against Severe Acute Respiratory Syndrome (SARS)-CoV in a mouse model. Here, we tested the efficacy of prophylactic and therapeutic remdesivir treatment in a nonhuman primate model of MERS-CoV infection, the rhesus macaque. Prophylactic remdesivir treatment initiated 24 h prior to inoculation completely prevented MERS-CoV-induced clinical disease, strongly inhibited MERS-CoV replication in respiratory tissues, and prevented the formation of lung lesions. Therapeutic remdesivir treatment initiated 12 h postinoculation also provided a clear clinical benefit, with a reduction in clinical signs, reduced virus replication in the lungs, and decreased presence and severity of lung lesions. The data presented here support testing of the efficacy of remdesivir treatment in the context of a MERS clinical trial. It may also be considered for a wider range of coronaviruses, including the currently emerging novel coronavirus 2019-nCoV.

URL: <https://doi.org/10.1073/pnas.1922083117>

Categories: Case study/case series; Clinical care and treatment; Other related diseases and viruses

"

"Year: 2020

Author: Elston, Dirk M.

Title: Letter from the Editor

Journal: Journal of the American Academy of Dermatology

DOI: <https://doi.org/10.1016/j.jaad.2020.02.031>

Abstract: N/A

Categories: Awaiting classification

"

"Year: 2020

Author: Gu, Xiaoying; Cao, Bin; Wang, Jianwei

Title: Full spectrum of COVID-19 severity still being depicted - Authors' reply

Journal: The Lancet

DOI: [https://doi.org/10.1016/S0140-6736\(20\)30371-8](https://doi.org/10.1016/S0140-6736(20)30371-8)

Abstract: N/A

URL: [https://doi.org/10.1016/S0140-6736\(20\)30371-8](https://doi.org/10.1016/S0140-6736(20)30371-8)

Categories: Case study/case series; Clinical care and treatment

"

"Year:

Author: Gu, Xiaoying; Cao, Bin; Wang, Jianwei

Title: Full spectrum of COVID-19 severity still being depicted ; Authors' reply

Journal: The Lancet

DOI: [http://doi.org/10.1016/S0140-6736\(20\)30371-8](http://doi.org/10.1016/S0140-6736(20)30371-8)

Abstract:

Categories: Case study/case series; Clinical care and treatment

"

"Year: 2020

Author: JAMA

Title: COVID-19 Update From China

Journal: JAMA

DOI:

Abstract: By mid-February 2020 there were 60,000 confirmed cases of COVID-19, the vast majority diagnosed in Hubei Province (including Wuhan city) in mainland China. China CDC Chief Epidemiologist Zunyou Wu, MD, PhD discusses the latest COVID-19 developments in the country with JAMA Editor in Chief Howard Bauchner, MD.

URL: <https://edhub.ama-assn.org/jn-learning/video-player/18234510>

Categories: Narrative review

"

"Year: 2020

Author: Ji, Xingyue; Li, Zhuorong

Title: Medicinal chemistry strategies toward host targeting antiviral agents

Journal: Medicinal Research Reviews

DOI: <http://doi.org/10.1002/med.21664>

Abstract: Direct-acting antiviral agents (DAAs) represent a class of drugs targeting viral proteins and have been demonstrated to be very successful in combating viral infections in clinic. However, DAAs suffer from several inherent limitations, including narrow-spectrum antiviral profiles and liability to drug resistance, and hence there are still unmet needs in the treatment of viral infections. In comparison, host targeting antivirals (HTAs) target host factors for antiviral treatment. Since host proteins are probably broadly required for various viral infections, HTAs are not only perceived, but also demonstrated to exhibit broad-spectrum antiviral activities. In addition, host proteins are not under the genetic control of viral genome, and hence HTAs possess much higher genetic barrier to drug resistance as compared with DAAs. In recent years, much progress has been made to the development of HTAs with the approval of chemokine receptor type 5 antagonist maraviroc for human immunodeficiency virus treatment and more in the pipeline for other viral infections. In this review, we summarize various host proteins as antiviral targets from a medicinal chemistry prospective. Challenges and issues associated with HTAs are also discussed. Abstract Direct-acting antiviral agents (DAAs) represent a class

of drugs targeting viral proteins and have been demonstrated to be very successful in combating viral infections in clinic. However, DAAs suffer from several inherent limitations, including narrow-spectrum antiviral profiles and liability to drug resistance, and hence there are still unmet needs in the treatment of viral infections. In comparison, host targeting antivirals (HTAs) target host factors for antiviral treatment. Since host proteins are probably broadly required for various viral infections, HTAs are not only perceived, but also demonstrated to exhibit broad-spectrum antiviral activities. In addition, host proteins are not under the genetic control of viral genome, and hence HTAs possess much higher genetic barrier to drug resistance as compared with DAAs. In recent years, much progress has been made to the development of HTAs with the approval of chemokine receptor type 5 antagonist maraviroc for human immunodeficiency virus treatment and more in the pipeline for other viral infections. In this review, we summarize various host proteins as antiviral targets from a medicinal chemistry prospective. Challenges and issues associated with HTAs are also discussed.

URL: <https://doi.org/10.1002/med.21664>

Categories: Clinical care and treatment; Narrative review; Virology, immunology

"

"Year: 2020

Author: Jiang, Shibo; Shi, Zheng-Li

Title: The First Disease X is Caused by a Highly Transmissible Acute Respiratory Syndrome Coronavirus

Journal: Virologica Sinica

Abstract: Based on the announcement of the World Health Organization (WHO) in 2018, the Wuhan pneumonia caused by an unknown etiology should be recognized as the first Disease X. Later, the pathogen was identified to be a novel coronavirus denoted 2019-nCoV, which has 79.5% and 96% whole genome sequence identify to SARS-CoV and bat SARS-related coronavirus (SARSr-CoV-RaTG13), respectively, suggesting its potential bat origin. With high human-to-human transmission rate (R_0), 2019-nCoV has quickly spread in China and other countries, resulting in 34,953 confirmed cases and 725 deaths as of 8 February 2020, thus calling for urgent development of therapeutics and prophylactics. Here we suggest renaming 2019-nCoV as "transmissible acute respiratory syndrome coronavirus (TARS-CoV)" and briefly review the advancement of research and development of neutralizing antibodies and vaccines targeting the receptor-binding domain (RBD) and viral fusion inhibitors targeting the heptad repeat 1 (HR1) domain in spike protein of 2019-nCoV.

URL: <https://doi.org/10.1007/s12250-020-00206-5>

Categories: Opinion piece; Virology, immunology

"

"Year: 2020

Author: Jin, Hao; Lu, Ligong; Liu, Junwei; Cui, Min

Title: Novel coronavirus pneumonia emergency in Zhuhai: impact and challenges

Journal: Journal of Hospital Infection

DOI: <https://doi.org/10.1016/j.jhin.2020.02.005>

Abstract:

URL: <https://doi.org/10.1016/j.jhin.2020.02.005>

Categories: Narrative review

"

"Year: 2020

Author: Jung, Sung-mok; Akhmetzhanov, Andrei R.; Hayashi, Katsuma; Linton, Natalie M.; Yang, Yichi; Yuan, Baoyin; Kobayashi, Tetsuro; Kinoshita, Ryo; Nishiura, Hiroshi

Title: Real-Time Estimation of the Risk of Death from Novel Coronavirus (COVID-19) Infection: Inference Using Exported Cases

Journal: Journal of Clinical Medicine

Abstract: The exported cases of 2019 novel coronavirus (COVID-19) infection that were confirmed outside China provide an opportunity to estimate the cumulative incidence and confirmed case fatality risk (cCFR) in mainland China. Knowledge of the cCFR is critical to characterize the severity and understand the pandemic potential of COVID-19 in the early stage of the epidemic. Using the exponential growth rate of the incidence, the present study statistically estimated the cCFR and the basic reproduction number—the average number of secondary cases generated by a single primary case in a naïve population. We modeled epidemic growth either from a single index case with illness onset on 8 December, 2019 (Scenario 1), or using the growth rate fitted along with the other parameters (Scenario 2) based on data from 20 exported cases reported by 24 January 2020. The cumulative incidence in China by 24 January was estimated at 6924 cases (95% confidence interval [CI]:

4885, 9211) and 19,289 cases (95% CI: 10,901, 30,158), respectively. The latest estimated values of the cCFR were 5.3% (95% CI: 3.5%, 7.5%) for Scenario 1 and 8.4% (95% CI: 5.3%, 12.3%) for Scenario 2. The basic reproduction number was estimated to be 2.1 (95% CI: 2.0, 2.2) and 3.2 (95% CI: 2.7, 3.7) for Scenarios 1 and 2, respectively. Based on these results, we argued that the current COVID-19 epidemic has a substantial potential for causing a pandemic. The proposed approach provides insights in early risk assessment using publicly available data.

URL: <https://doi.org/10.3390/jcm9020523>

Categories: Epidemiological study

"

"Year: 2020

Author: Lee, Kyung Soo

Title: Pneumonia Associated with 2019 Novel Coronavirus: Can Computed Tomographic Findings Help Predict the Prognosis of the Disease?

Journal: Korean J Radiol

DOI: 10.3348/kjr.2020.0096

Abstract: N/A

URL: <https://doi.org/10.3348/kjr.2020.0096>

Categories: Clinical care and treatment; Narrative review

"

"Year: 2020

Author: Li, Z. Y.; Meng, L. Y.

Title: The prevention and control of a new coronavirus infection in department of stomatology

Journal: Zhonghua Kou Qiang Yi Xue Za Zhi

DOI: <http://doi.org/10.3760/cma.j.issn.1002-0098.2020.0001>

Abstract: During a short period of time, the outbreak of pneumonia caused by a novel coronavirus, named Novel Coronavirus Pneumonia (NCP), was first reported in China, spreading to 24 countries and regions rapidly. The number of confirmed cases and deaths continued to rise. World Health Organization (WHO) announced that the outbreaks of the novel coronavirus have constituted a Public Health Emergency of International Concern. Efficient infection control can prevent the virus from further spreading, which makes the epidemic situation under control. Due to the specialty of oral healthcare settings, the risk of cross infection is severe among patients and oral healthcare practitioners. It's more urgent to implement strict and efficient infection control protocols. This paper, based on existing guidelines and published researches pertinent to dental infection-control principles and practices, mainly discusses epidemiological characteristics of NCP and the features of nosocomial infection in oral healthcare settings, and furthermore provides recommendations on patient's evaluation, and infection control protocols in department of stomatology under current circumstance..

URL: <https://doi.org/10.3760/cma.j.issn.1002-0098.2020.0001>

Categories: Narrative review

"

"Year: 2020

Author: Liang, Wenhua; Guan, Weijie; Chen, Ruchong; Wang, Wei; Li, Jianfu; Xu, Ke; Li, Caichen; Ai, Qing; Lu, Weixiang; Liang, Hengrui; Li, Shiyue; He, Jianxing

Title: Cancer patients in SARS-CoV-2 infection: a nationwide analysis in China

Journal: The Lancet Oncology

Abstract:

URL: [https://doi.org/10.1016/S1470-2045\(20\)30096-6](https://doi.org/10.1016/S1470-2045(20)30096-6)

Categories: Awaiting classification

"

"Year: 2020

Author: Lin, Xiaoqi; Gong, Zhenyu; Xiao, Zuke; Xiong, Jingliang; Fan, Bing; Liu, Jiaqi

Title: Novel Coronavirus Pneumonia Outbreak in 2019: Computed Tomographic Findings in Two Cases

Journal: Korean J Radiol

DOI: <http://doi.org/10.3348/kjr.2020.0078>

Abstract: Since the 2019 novel coronavirus (2019-nCoV or officially named by the World Health Organization as COVID-19) outbreak in Wuhan, Hubei Province, China in 2019, there have been a few reports of its imaging findings. Here, we report two confirmed cases of 2019-nCoV pneumonia with chest computed tomography findings of multiple regions of patchy consolidation and ground-glass opacities in both lungs. These findings were characteristically located along the bronchial bundle or subpleural lungs.

URL: <https://doi.org/10.3348/kjr.2020.0078>

Categories: Case study/case series

"

"Year: 2020

Author: MacKenzie, Debora

Title: How bad will it get?

Journal: New Scientist

Abstract: While the coronavirus death rate may be lower than some estimates, case numbers may be far higher, reports Debora MacKenzie

URL: [https://doi.org/10.1016/S0262-4079\(20\)30278-5](https://doi.org/10.1016/S0262-4079(20)30278-5)

Categories: Awaiting classification

"

"Year: 2020

Author: MacKenzie, Debora

Title: Wuhan-like virus discovered seven years ago

Journal: New Scientist

DOI: [https://doi.org/10.1016/S0262-4079\(20\)30281-5](https://doi.org/10.1016/S0262-4079(20)30281-5)

Abstract:

URL: [https://doi.org/10.1016/S0262-4079\(20\)30281-5](https://doi.org/10.1016/S0262-4079(20)30281-5)

Categories: Awaiting classification

"

"Year: 2020

Author: Mahase, Elisabeth

Title: Coronavirus: home testing pilot launched in London to cut hospital visits and ambulance use

Journal: BMJ

DOI: 10.1136/bmj.m621

Abstract: People with suspected covid-19 in London are being tested in their homes as part of a pilot that was developed by doctors to stop unnecessary ambulance use and hospital visits. The community testing scheme started at the end of January at North West London NHS Trust and has now been implemented in three other trusts: University College London Hospital, St George's University Hospital, and Guys and St Thomas's. More than 130 patients have been tested in two weeks. The home testing initiative was started by Laurence John from the infectious diseases department at Northwick Park Hospital. He told The BMJ that the need for community testing became clear after 25 London ambulances had to be taken out of service.

URL: <https://doi.org/10.1136/bmj.m621>

Categories: Case study/case series; Clinical care and treatment

"

"Year: 2020

Author: Marty, Aileen; Jones, Malcolm K.

Title: The novel Coronavirus (2019-nCoV) is a one health issue

Journal: One Health

Abstract:

URL: <https://doi.org/10.1016/j.onehlt.2020.100123>

Categories: Opinion piece

"

"Year: 2020

Author: Ministerio de Salud y Protección, Social

Title: Lineamientos para la detección y manejo de casos por los prestadores de servicios de salud, frente a la eventual introducción del nuevo coronavirus (2019-ncov) a Colombia

Journal:

DOI:

Abstract: Purpose: to guide the country's health care providers in the detection, care, and management of suspected cases of infection caused by the new Coronavirus (nCoV-2019) in order to reduce the risk of human-to-human transmission of the virus.

URL: <https://www.minsalud.gov.co/Ministerio/Institucional/Procesos%20y%20procedimientos/GIPS05.pdf>

Categories: Infection prevention and control; Normative guidance

"

"Year: 2020

Author: Ministerio de Salud y Protección, Social

Title: Manual de bioseguridad para prestadores de servicios de salud que brinden atención en salud ante la eventual introducción del nuevo coronavirus (nCoV-2019) a Colombia / Biosafety Manual for Healthcare Providers Providing Healthcare in the Face of the Possible Introduction of the New Coronavirus (nCoV-2019) to Colombia

Journal:

DOI:

Abstract: Objective: To provide guidance to the country's health service providers on the biosecurity standards that need to be implemented for suspected or confirmed cases of the new coronavirus (nCoV-2019), in order to reduce the risk of human-to-human transmission of the virus during care. In health, avoiding the presentation of cases in health workers, other personnel working in the care setting, and other patients in the health service provider's facilities.

URL:

<https://www.minsalud.gov.co/Ministerio/Institucional/Procesos%20y%20procedimientos/GIPM01.pdf>

Categories: Infection prevention and control; Normative guidance

"

"Year: 2020

Author: Nature

Title: More than 80 clinical trials launch to test coronavirus treatments

Journal: Nature

DOI: doi:10.1038/d41586-020-00444-3

Abstract: As HIV drugs, stem cells and traditional Chinese medicines vie for a chance to prove their worth, the WHO attempts to bring order to the search. As HIV drugs, stem cells and traditional Chinese medicines vie for a chance to prove their worth, the WHO attempts to bring order to the search.

URL: <https://www.nature.com/articles/d41586-020-00444-3>

Categories: Clinical care and treatment; Opinion piece

"

"Year: 2020

Author: Nishiura, Hiroshi; Linton, Natalie M.; Akhmetzhanov, Andrei R.

Title: Initial Cluster of Novel Coronavirus (2019-nCoV) Infections in Wuhan, China Is Consistent with Substantial Human-to-Human Transmission

Journal: J Clin Med

DOI: 10.3390/jcm9020488

Abstract: Reanalysis of the epidemic curve from the initial cluster of cases with novel coronavirus (2019-nCoV) in December 2019 indicates substantial human-to-human transmission. It is possible that the common exposure history at a seafood market in Wuhan originated from the human-to-human transmission events within the market, and the early, strong emphasis that market exposure indicated animal-to-human transmission was potentially the result of observer bias. To support the hypothesis of zoonotic origin of 2019-nCoV stemming from the Huanan seafood market, the index case should have had exposure history related to the market and the virus should have been identified from animals sold at the market. As these requirements remain unmet, zoonotic spillover at the market must not be overemphasized.

URL: <https://doi.org/10.3390/jcm9020488>

Categories: Epidemiology; Opinion piece

"

"Year: 2020

Author: Rodriguez-Morales, A. J.; Bonilla-Aldana, D. K.; Balbin-Ramon, G. J.; Rabaan, A. A.; Sah, R.; Paniz-Mondolfi, A.; Pagliano, P.; Esposito, S.

Title: History is repeating itself: Probable zoonotic spillover as the cause of the 2019 novel coronavirus epidemic

Journal: Infezioni in Medicina

DOI:

Abstract:

URL: https://www.infezmed.it/media/journal/Vol_28_1_2020_1.pdf

Categories: Opinion piece; Reservoir

"

"Year: 2020

Author: Sao Paulo Secretaria da, Saude

Title: Novo coronavirus (2019 nCov) Medidas de prevenção e controle de infecção a serem adotadas na assistência à saúde / New coronavirus (2019 nCov) Infection prevention and control measures to be adopted in health care

Journal:

DOI:

Abstract:

URL:

http://docs.bvsalud.org/biblioref/2020/02/1049813/coronavius_orientacoes_pas_310120.pdf

Categories: Awaiting classification

"

"Year: 2020

Author: Special Expert Group for Control of the Epidemic of Novel Coronavirus Pneumonia of the Chinese Preventive Medicine, Association

Title: An update on the epidemiological characteristics of novel coronavirus pneumonia COVID-19

Journal: Zhonghua Liu Xing Bing Xue Za Zhi

DOI: 10.3760/cma.j.issn.0254-6450.2020.02.002

Abstract: Through literature review and group discussion, Special Expert Group for Control of the Epidemic of Novel Coronavirus Pneumonia of the Chinese Preventive Medicine Association formulated an update on the epidemiological characteristics of novel coronavirus pneumonia (NCP). The initial source of the 2019 novel coronavirus (2019-nCoV) was the Huanan seafood market in Wuhan, Hubei province, China, with pangolins as a potential animal host. Currently the main source of infection is NCP patients, and asymptomatic carriers may also be infectious. The virus is believed transmitted mostly via droplets or contact. People are all generally susceptible to the virus. The average incubation period was 5.2 days, and the basic reproductive number $R(0)$ was 2.2 at the onset of the outbreak. Most NCP patients were clinically mild cases. The case fatality rate was 2.38%, and elderly men with underlying diseases were at a higher risk of death. Strategies for prevention and control of NCP include improving epidemic surveillance, quarantining the source of infection, speeding up the diagnosis of suspected

cases, optimizing the management of close contacts, tightening prevention and control of cluster outbreaks and hospital infection, preventing possible rebound of the epidemic after people return to work from the Chinese Spring Festival holiday, and strengthening community prevention and control.

URL: <https://doi.org/10.3760/cma.j.issn.0254-6450.2020.02.002>

Categories: Epidemiology; Narrative review

"

"Year: 2020

Author: Sun, M. L.; Yang, J. M.; Sun, Y. P.; Su, G. H.

Title: Inhibitors of RAS Might Be a Good Choice for the Therapy of COVID-19 Pneumonia

Journal: Zhonghua Jie He He Hu Xi Za Zhi

DOI: 10.3760/cma.j.issn.1001-0939.2020.0014

Abstract: The novel coronavirus 2019 (COVID-19) infected patients by binding human ACE2, leading to severe pneumonia and highly mortality rate in patients. At present, there is no definite and effective treatment for COVID-19. ACE2 plays an important role in the RAS, and the imbalance between ACE/Ang II/AT1R pathway and ACE2/Ang (1-7)/Mas receptor pathway in the RAS system will lead to multi-system inflammation. Increased ACE and Ang II are poor prognostic factors for severe pneumonia. Animal studies have shown that RAS inhibitors could effectively relieve symptoms of acute severe pneumonia and respiratory failure. The binding of COVID-19 and ACE2 resulted in the exhaustion of ACE2, and then ACE2/Ang (1-7)/Mas receptor pathway was inhibited. The balance of the RAS system was broken, and this would lead to the exacerbation of acute severe pneumonia. Therefore, we speculate that ACEI and AT1R inhibitors could be used in patients with COVID-19 pneumonia under the condition of controlling blood pressure, and might reduce the pulmonary inflammatory response and mortality.

URL: <https://pubmed.ncbi.nlm.nih.gov/32061198>

Categories: Clinical care and treatment; Opinion piece

"

"Year: 2020

Author: Tao, K. X.; Zhang, B. X.; Zhang, P.; Zhu, P.; Wang, G. B.; Chen, X. P.; General Surgery Branch of Hubei Medical, Association; General Surgery Branch of Wuhan Medical, Association

Title: Recommendations for general surgery clinical practice in novel coronavirus pneumonia situation

Journal: Zhonghua Wai Ke Za Zhi

DOI: 10.3760/cma.j.issn.0529-5815.2020.0001

Abstract: Novel coronavirus pneumonia (NCP) is a highly infectious disease, has a long incubation period and a variety of clinical manifestations, which has a significant impact on public health and life. Afterwards, scientific and standardized work processing during the epidemic is of great significance for prevention and control. In order to implement the central government's decision-making deployment and defeat the NCP as soon as possible, we had focused on the key points in the clinical work of general surgery according to latest relevant guidelines, literature and experience in epidemic prevention. Finally, we drafted the prevention and control strategies and recommendations to make a reference for medical staff of general surgery to fight NCP.

URL: <https://doi.org/10.3760/cma.j.issn.0529-5815.2020.0001>

Categories: Clinical care and treatment; Normative guidance

"

"Year: 2020

Author: Wan, Yushun; Shang, Jian; Sun, Shihui; Tai, Wanbo; Chen, Jing; Geng, Qibin; He, Lei; Chen, Yuehong; Wu, Jianming; Shi, Zhengli; Zhou, Yusen; Du, Lanying; Li, Fang

Title: Molecular Mechanism for Antibody-Dependent Enhancement of Coronavirus Entry

Journal: Journal of Virology

DOI: 10.1128/JVI.02015-19

Abstract: Antibody-dependent enhancement (ADE) of viral entry has been a major concern for epidemiology, vaccine development, and antibody-based drug therapy. However, the molecular mechanism behind ADE is still elusive. Coronavirus spike protein mediates viral entry into cells by first

binding to a receptor on the host cell surface and then fusing viral and host membranes. In this study, we investigated how a neutralizing monoclonal antibody (MAb), which targets the receptor-binding domain (RBD) of Middle East respiratory syndrome (MERS) coronavirus spike, mediates viral entry using pseudovirus entry and biochemical assays. Our results showed that MAb binds to the virus surface spike, allowing it to undergo conformational changes and become prone to proteolytic activation. Meanwhile, MAb binds to cell surface IgG Fc receptor, guiding viral entry through canonical viral-receptor-dependent pathways. Our data suggest that the antibody/Fc-receptor complex functionally mimics viral receptor in mediating viral entry. Moreover, we characterized MAb dosages in viral-receptor-dependent, Fc-receptor-dependent, and both-receptors-dependent viral entry pathways, delineating guidelines on MAb usages in treating viral infections. Our study reveals a novel molecular mechanism for antibody-enhanced viral entry and can guide future vaccination and antiviral strategies.

IMPORTANCE Antibody-dependent enhancement (ADE) of viral entry has been observed for many viruses. It was shown that antibodies target one serotype of viruses but only subneutralize another, leading to ADE of the latter viruses. Here we identify a novel mechanism for ADE: a neutralizing antibody binds to the surface spike protein of coronaviruses like a viral receptor, triggers a conformational change of the spike, and mediates viral entry into IgG Fc receptor-expressing cells through canonical viral-receptor-dependent pathways. We further evaluated how antibody dosages impacted viral entry into cells expressing viral receptor, Fc receptor, or both receptors. This study reveals complex roles of antibodies in viral entry and can guide future vaccine design and antibody-based drug therapy.

URL: <https://doi.org/10.1128/JVI.02015-19>

Categories: Virology, immunology

"

"Year: 2020

Author: Wassenaar, Trudy M.; Zou, Ying

Title: 2019_nCoV: Rapid classification of betacoronaviruses and identification of traditional Chinese medicine as potential origin of zoonotic coronaviruses

Journal: Letters in Applied Microbiology

DOI: 10.1111/lam.13285

Abstract: Abstract The current outbreak of a novel SARS-like coronavirus, 2019_nCoV, illustrated difficulties in identifying a novel coronavirus and its natural host, as the coding sequences of various Betacoronavirus species can be highly diverse. By means of whole-genome sequence comparisons, we demonstrate that the non-coding flanks of the viral genome can be used to correctly separate the recognized four betacoronavirus subspecies. The conservation would be sufficient to define target

sequences that could, in theory, classify novel virus species into their subspecies. Only 253 upstream non-coding sequences of Sarbecovirus are sufficient to identify genetic similarities between species of this subgenus. Further, it was investigated which bat species have commercial value in China, and would thus likely be handled for trading purposes. A number of coronavirus genomes have been published that were obtained from such bat species. These bats are used in Traditional Chinese Medicine, and their handling poses a potential risk to cause zoonotic coronavirus epidemics.

URL: <https://doi.org/10.1111/lam.13285>

Categories: Reservoir; Virology, immunology

"

"

"Year: 2020

Author: Xiao, Chuan; Li, Xiaojun; Liu, Shuying; Sang, Yongming; Gao, Shou-Jiang; Gao, Feng

Title: HIV-1 did not contribute to the 2019-nCoV genome

Journal: Emerg Microbes Infect

DOI: 10.1080/22221751.2020.1727299

Abstract:

URL: <https://doi.org/10.1080/22221751.2020.1727299>

Categories: Reservoir; Virology, immunology

"

"Year:

Author: Xu, Zhou; Li, Shu; Tian, Shen; Li, Hao; Kong, Ling-quan

Title: Full spectrum of COVID-19 severity still being depicted

Journal: The Lancet

DOI: 10.1016/S0140-6736(20)30308-1

Abstract:

URL: [https://doi.org/10.1016/S0140-6736\(20\)30308-1](https://doi.org/10.1016/S0140-6736(20)30308-1)

Categories: Epidemiology

"

"Year: 2020

Author: Zhang, M. Q.; Wang, X. H.; Chen, Y. L.; Zhao, K. L.; Cai, Y. Q.; An, C. L.; Lin, M. G.; Mu, X. D.

Title: Clinical features of 2019 novel coronavirus pneumonia in the early stage from a fever clinic in Beijing

Journal: Zhonghua Jie He He Hu Xi Za Zhi

DOI: 10.3760/cma.j.issn.1001-0939.2020.0013

Abstract: Objective: To summarize and analyze the clinical and imaging characteristics of patients with 2019 novel coronavirus pneumonia in the early stage in Beijing. Methods: A retrospective analysis of clinical and imaging data of 9 patients with 2019 novel coronavirus infection diagnosed in one fever clinic in Beijing from January 18, 2020 to February 3, 2020. Results: 5 male and 4 female was included in those 9 patients, whose median age was 36 years, and the age range from 15 to 49 years. 8 of these patients had no underlying disease and one suffered from diabetes. 7 patients had a history of travel to Wuhan City or Hubei Province, and one patient was a medical staff. Two family clustered was found. The incubation period was 1 to 6 days. The clinical manifestations were fever in 8 cases (8/9) , dry cough in 5 cases (5/9) , pharyngalgia in 4 cases (4/9) , fatigue in 4 cases (4/9) , body soreness in 4 cases (4/9) , and blocked or watery nose in 1 case (1/9) . Six patients (6/9) had abnormal cell peripheral blood, of which 3 (3/9) had an increased monocyte count, 2 (2/9) had a reduced lymphocyte , and 1 (1/9) had an increased leukocyte count, while the 3 patients had normal cell blood routines. The median of CRP was 16.3 mg/L, including 5 patients with slightly elevated (5/9) , 4 patients with normal values (4/9) . the results of procalcitonin test were negative in 5 patients. Three patients were examined by chest X-ray examination, one of which was normal, one case showed infiltrates of right upper lung, and another showed in right lower lung. All patients underwent chest HRCT. And 7 cases (7/9) showed multiple ground glass exudation, including 5 cases (5/7) involved bilateral lungs, 2 cases (2/7) involved unilateral lung, 3 cases (3/7) with patchy consolidation, and 2 cases (2/9) showed no abnormality. Conclusions: The patents with 2019 novel coronavirus pneumonia in this study generally have an epidemiological history. The clinical manifestations are fever and cough. Peripheral white blood cell counts were most normal And PCT were all negative. Chest HRCT manifested as multiple ground-glass opacities with partly

consolidation. Some patients had normal chest radiographs but HRCT showed pneumonia. Some patients had no pneumonia on chest HRCT.

URL: <https://doi.org/10.3760/cma.j.issn.1001-0939.2020.0013>

Categories: Case study/case series; Clinical care and treatment

"

"Year: 2020

Author:

Title: China's chemical industry shadowed by the coronavirus

Journal: C&EN Global Enterprise

DOI: 10.1021/cen-09806-buscon1

Abstract: With its escalating infections, city shutdowns, and nationwide transportation halts, the epidemic of the novel coronavirus is starting to strain China's chemical industry. But experts see the impact as manageable and "they hope" short lived. By the afternoon of Feb. 6, more than 28,000 people in China were confirmed infected with the virus, almost 20,000 of them in the central Chinese province of Hubei. The death toll in China was 564, compared with 349 deaths in all of China from the severe acute respiratory syndrome (SARS) virus in 2003. The government shut down travel in and out of all cities in Hubei and extended the Lunar New Year holiday until Feb. 9 or 10 for most factories nationwide. Even if the epidemic is controlled in the next few months, frozen consumption, reduced factory output, and disturbed supply chains will cut 0.1 to 0.2 percentage points from global economic growth in 2020, according

URL: <https://doi.org/10.1021/cen-09806-buscon1>

Categories: Ethics, social science, economics; Opinion piece

"

"Year: 2020

Author:

Title: Coronavirus latest: Chinese cases spike after changes to diagnosis method

Journal: Nature

DOI: doi:10.1038/d41586-020-00154-w

Abstract: Updates on the respiratory illness that has infected tens of thousands of people. Updates on the respiratory illness that has infected tens of thousands of people.

URL: <https://doi.org/10.1038/d41586-020-00154-w>

Categories: Epidemiology

"

"Year: 2020

Author:

Title: Department of Error: A novel coronavirus outbreak of global health concern (The Lancet (2020) 395(10223) (470-473), (S0140673620301859), (10.1016/S0140-6736(20)30185-9))

Journal: The Lancet

DOI: 10.1016/S0140-6736(20)30250-6

Abstract: Wang C, Horby PW, Hayden FG, Gao GF. A novel coronavirus outbreak of global health concern. Lancet 2020; published online Jan 24. [https://doi.org/10.1016/S0140-6736\(20\)30185-9](https://doi.org/10.1016/S0140-6736(20)30185-9) In this Comment, the first sentence of the third paragraph should have read "Of the 41 patients in this cohort, 22 (55%) developed severe dyspnoea and 13 (32%) required admission to an intensive care unit, and six died." And in the table, the title of the third row should have read "Location of first detection". These corrections have been made to the online version as of Jan 29, 2020, and will be made to the printed version.

URL: [https://doi.org/10.1016/S0140-6736\(20\)30250-6](https://doi.org/10.1016/S0140-6736(20)30250-6)

Categories: Case study/case series; Clinical care and treatment

"

"Year: 2020

Author:

Title: Department of Error: Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China (The Lancet (2020) 395(10223) (497-506), (S0140673620301835), (10.1016/S0140-6736(20)30183-5))

Journal: The Lancet

DOI: 10.1016/S0140-6736(20)30252-X

Abstract: Huang C, Wang Y, Li X, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. Lancet 2020; published online Jan 24. [https://doi.org/10.1016/S0140-6736\(20\)30183-5](https://doi.org/10.1016/S0140-6736(20)30183-5)”In this Article, in Procedures, we have corrected the primer sequences for targeting the envelope gene of coronavirus; in the Summary and Data collection, we have corrected the text to reflect that the modified case record form for severe acute respiratory infection clinical characterisation was developed by WHO and the International Severe Acute Respiratory and Emerging Infection Consortium (ISARIC) together; we have updated the margin link to the ISARIC’s WHO case record form; we have updated the Acknowledgments; and in the tables, we updated p values (three in table 2 and one each in tables 1 and 3) so that they are all given to two significant figures. These corrections have been made to the online version as of Jan 30, 2020, and will be made to the printed version.

URL: [https://doi.org/10.1016/S0140-6736\(20\)30252-X](https://doi.org/10.1016/S0140-6736(20)30252-X)

Categories: Case study/case series; Clinical care and treatment

"