REVIEW ARTICLE
published: July 31 2020
doi: 10.21070/medicra.v3i1.402

Quick Diagnostics Of New Infectious Coronavirus

Diagnostik Cepat dari Penularan Virus Corona

Boboev Muhammadayubkhon Murodkhonovich [1]***, Ramazonova Shahzoda*** [2]

[1] *Andijan State Medical Institute, 126 Navoi Avenue, Andijan city, 110000, Uzbekistan,* [2] *Tashkent Pharmaceutical Institute, 45 Aybek Street, Tashkent, 100015, Uzbekistan*

The emergence in December 2019 of diseases caused by the new coronavirus (2019-nCoV) posed difficult challenges for healthcare professionals and doctors related to the rapid diagnosis and clinical management of patients with this infection.

Keywords: corona viruses, distress syndrome, epidemiology, infections

OPEN ACCESS
ISSN 2580-7730 (online)

Edited by:
Andika Aliviameita

Reviewed by:
Wimbuh Tri Widodo

***Correspondence:**
Boboev Muhammadayubkhon Murodkhonovich
Ayubshoh@mail.ru

Received: *April 13 2020*
Accepted: *June 22 2020*
Published: *July 31 2020*

Citation:
Murodkhonovich BM and Shahzoda R (2020) Quick Diagnostics Of New Infectious Coronavirus. Medicra (Journal of Medical Laboratory Science Technology). 3:1. doi: 10.21070/medicra.v3i1.402

INTRODUCTION

Currently, information on the epidemiology, clinical features, prevention and treatment of this disease is limited. It is known that the most common clinical manifestation of a new variant of coronavirus infection is pneumonia, in a significant number of patients the development of acute respiratory distress syndrome (ARDS) is registered Organization) (2019); Erofeeva et al. (2012).

METHOD

Four coronaviruses (HCoV-229E, -OC43, -NL63, and -HKU1), which are year-round in the structure of acute respiratory viral infections, and, as a rule, cause mild and moderate upper respiratory tract damage, are known to circulate among the population. According to the results of serological and phylogenetic analysis, coronaviruses are divided into three genera: Alphacoronavirus, Betacoronavirus and Gammacoronavirus. The natural hosts of most of the currently known coronaviruses are mammals. Until 2002, coronaviruses were considered as agents causing mild diseases of the upper respiratory tract (with extremely rare lethal outcomes). At the end of 2002, coronavirus (SARS-CoV) appeared, a causative agent of SARS that caused SARS in humans. This virus belongs to the genus Betacoronavirus Osidak and Obraztsova (2012) . The natural reservoir of SARS-CoV is bats, intermediate hosts are camels and Himalayan civet. In total, over the period of the epidemic in 37 countries, more than 8,000 cases were recorded, of which 774 were fatal. Since 2004, no new cases of SARS-CoV-associated SARS have been reported.

The new coronavirus 2019-nCoV (interim name assigned by the World Health Organization on January 12, 2020) Organization) (2019) is a single-stranded RNA virus, belongs to the Coronaviridae family, belongs to the Beta-CoV B line. The virus is assigned to pathogenicity group II, like some others representatives of this family (SARS-CoV virus, MERS-CoV virus).

Coronavirus 2019-nCoV is suspected to be a recombinant virus between bat coronavirus and a coronavirus of unknown origin. The 2019-nCoV genetic sequence is similar to the SARS-CoV sequence by at least 70%.

The pathogenesis of a new coronavirus infection is not well understood. Data on the duration and intensity of immunity against 2019-nCoV are currently not available. Immunity for infections caused by other members of the coronavirus family is not persistent and re-infection is possible.

RESULTS AND DISCUSSION

Currently, data on the epidemiological profile of the new coronavirus infection 2019-nCoV are limited. The virus is most widespread in China, where there is a spread in almost all provinces with an epicenter in Wuhan, Hubei Province. Import cases have been recorded in countries of Asia, North America and Europe: Thailand, Japan, Republic of Korea, Vietnam, Malaysia, Nepal, Taiwan, Singapore, Australia, USA, Canada, France, Germany. The initial source of infection has not been established. The first cases of the disease could be associated with a visit to the seafood market in Wuhan (PRC), which sold poultry, snakes, bats and other animals Osidak and Obraztsova (2012); Omrani et al. (2014) .

Currently, the main source of infection is a sick person, including those in the incubation period of the disease. Ways of transmission: airborne (with coughing, sneezing, talking), airborne dust and contact. Transmission factors: air, food and household items contaminated with 2019-nCoV. The role of the infection caused by 2019-nCoV as an infection associated with the provision of medical care has been established. A panoramic chest x-ray in the anterior direct and lateral projections is recommended for all patients with suspected pneumonia (with an unknown localization of the inflammatory process, it is advisable to take a picture in the right side projection). When radiography of the chest reveals bilateral confluent infiltrative dimming. Most often, the most pronounced changes are localized in the basal parts of the lungs. A small pleural effusion may also be present

Computed tomography of the lungs is a more sensitive method for the diagnosis of viral pneumonia. The main findings in pneumonia are bilateral infiltrates in the form of "frosted glass" or consolidation, which are predominantly distributed in the lower and middle zones of the lungs. Electrocardiography (ECG) in standard leads is recommended for all hospitalized patients. This study does not carry any specific information, but it is now known that viral infection and pneumonia in addition to decompensation of chronic concomitant diseases increase the risk of rhythm disturbances and acute coronary syndrome, the timely detection of which significantly affects the prognosis. In addition, certain changes in the ECG (for example, prolongation of the QT interval) require attention when evaluating the cardiotoxicity of a number of antibacterial drugs Omrani et al. (2014) .

Deciding on the need for hospitalization: a) with anamnestic data indicating the likelihood of infection caused by 2019-nCoV, regardless of the severity of the patient's condition, hospitalization to an infectious diseases hospital / ward is observed with all anti-epidemic measures observed; b) in the absence of suspicion of an infection caused by 2019-nCoV, the decision on hospitalization depends on the severity of the condition and the likely other diagnosis.

CONCLUSION

The use of medications for non-specific prophylaxis of 2019-nCoV infection is directed but to reduce the likelihood of the disease or its severity in a potentially susceptible contingent (protection of people who are and / or who were in contact with the patient). Emergency medical prophylaxis of coron-

avirus infection involves the appointment of drugs that have a non-specific antiviral effect.

Indicated to all persons in contact with patients with confirmed or suspected 2019-nCoV infection. Drug prophylaxis of coronavirus infection is carried out in the first 48 hours after contact with the patient. The timing of prescribing drug prophylaxis of coronavirus infection is set within the proposed incubation period (14 days) from the moment of the last contact with the source of infection. Prescribing with the preventive purpose of medicines should be carried out strictly as prescribed by the doctor and under his supervision.

AUTHOR CONTRIBUTION

The first and second authors do the design of the work, data collection, and drafting the article.

FUNDING

This research uses the independent funding of researchers.

ACKNOWLEDGEMENTS

Thank you to all who helped with this research.

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Conflict of Interest Statement: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.