

AN EVALUATION ON COVID- 19, ORAL INDICATORS AND ITS EFFECT ON DENTISTRY

Dr. Vishwesh P. Joshi

M.D.S First Year P.G. Student,
Narsinhbhai Dental Collage And Hospital, Sakalchand Patel University,
Visanagar, Gujarat, India.
vishweshjoshi1905@gmail.com

Abstract

Severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) is a novel community health disaster. This virus epidemic has been declared as a community health emergency of worldwide apprehension by WHO. This article delivers a brief analysis of the structure of this virus, spread, clinical features and oral indicators of COVID-19 disease. The goal of this article is to ratify the effect of this epidemic condition on dentistry, patient administration and etiquettes to deliver idyllic dental care.

Keywords: COVID- 19, dentistry, oral indicators, disinfection, tele dentistry.

INTRODUCTION

The 2019 novel corona virus (2019-nCoV) or the severe acute respiratory syndrome corona virus 2 foremost spotted in Wuhan city in Hubei province in Central China. In the month of December 2019, a significant number of patients developed pneumonia of unidentified reason in Wuhan. These cases had a history of contact to human seafood wholesale marketplace. The virus then speedily spread from Wuhan. Later an outburst of the 2019- novel corona virus (2019-nCoV) happened, scattering quickly to other provinces of CHINA as well as to further nations. Till December 7, 2020 a total of 65 860 130 cases were seen in 220 nations.

WHO has been intensely worried by the distressing levels of blowout and so, on 11 march 2020 completed the assessment that COVID- 19 can be considered as pandemic. Doctors and health care workers who are retorting to this worldwide health disaster have found themselves as surprising targets in the fight against COVID- 19. And dental care experts face a great jeopardy of this virus due to person-to-person communication and contact to saliva. So better understanding of virus appearances, methods of spreads, clinical and oral indicators are supportive to form a code of behaviour for dental treatments (1-4). This supports us to diminish contamination exposure with healthier treatment.

STRUCTURE

2019 novel corona virus (2019-nCoV) are encircled positive sense RNA viruses ranging from 60 nm to 140 nm in diameter with spike like projections on its exterior giving it a crown like appearance below electron microscope, so it called corona virus. The virus belongs to the Nido virales order that entails of families, namely, Roniviridae, Arteriviridae, and Coronaviridae. At the similar time, the Coronaviridae family is separated into two, which contain Torovirinae and Coronaviridae. Additionally, the Coronaviridae subfamily is classified as into alpha-, beta-, gamma-, and delta- COVs5. SARS-CoV-2 belongs to Beta coronavirus composed with two highly pathogenic viruses, SARS-CoV and MERS-CoV (5-8).

MODE OF SPREAD

The source of original cases was related to human seafood wholesale marketplace. Since there is resemblance between the SARSCoV-2 and Bat-CoV RaTG13 (a gene perceived from a bat), investigators supposed that bat is an early host. The intermediary animal through which it traversed to humans is undefined; pangolins and snakes are existing suspects. Contamination was thought to be carried through zoonotic agents; in spite of the shutting of seafood marketplace rate of diseased patients amplified which shows human to human spread. Respiratory dewdrops and direct contact such as shaking infected hands, or with contaminated sides are main sources of spread. Still, whether blood transfusion and organ transplantation, as well as transplacental and perinatal routes, are probable routes for SARS-CoV-2 spread needs to be resolute. SARS-CoV-2 is also more probable to contaminate individuals with long-lasting co-morbidities such as cardio-vascular and cerebrovascular diseases and diabetes. The maximum percentage of severe cases occurs in adults ≥ 61 years of age, and in those with certain basic conditions, such as cardiovascular and cerebrovascular diseases. Few

COVID-19 cases have been described in children less than 15 years or if diseased shows mild warning sign than adults (9-15).

CLINICAL INDICATORS

The clinical features of COVID-19 are wide-ranging, extending from symptomless state to acute respiratory distress syndrome and multi organ failure. Research from the Chinese CDC detects that about 80% of coronavirus cases are minor, around 15% of patients have diseased severe cases, and 5% have become critically ill. In the starting day of the symptom, the patient suffers from fever laterally with weakness, muscle aching, and a dry cough. Few of them may fill vomiting and diarrhoea a few days before the stimulation of signs. Patients may agonize from breathing problem especially if they are elderly or have some pre-existing health illness. These are the signs of the patient that lead the patient to be approved in the hospital. 15% of patients (according to the Chinese CDC) grow acute respiratory distress syndrome (ARDS), a disorder where the fluid blocks in the lungs and this is mostly lethal. This usually occurs in severe cases and at this point the patient is transferred to ICU (16-19).

ORAL MANIFESTATIONS

A 67-year-old man who was covid positive had a white plaque on dorsum of tongue and multiple pin point yellowish ulcers on the tongue dorsum like to the late phase of herpetic oral lesions. True loss of taste is very infrequent, and it is usually led by the failure to observe the odour of food because of olfactory disfunction. In other studies, patients with covid positive displays many oral appearances like oral candidiasis, desquamative gingivitis, lip blisters.

DIAGNOSIS AND INVESTIGATIONS

Finding of COVID-19 is based on inquiry form and precise tests like molecular methods, serology and viral culture. RT-PCR (Real Time Polymerase Chain Reaction) is ideal for diagnosis. Lower respiratory tract samples are ideal than upper ones because they have greater viral load. The chest X-ray generally shows bilateral infiltrates but may be normal in early disease. The Computed tomography is additional sensitive and specific. Chest CT of patients with COVID-19, most commonly reveals ground-glass opacification with or without unifying abnormalities, reliable with viral pneumonia. Chest CT abnormalities have a peripheral distribution, and include the lower lobes. Serologic approaches like lateral flow assay and ELISA can be useful to notice past and present infection. Rapid tests that have been developed for the recognition of SARS-CoV-2 IgG-IgM antibodies are founded on lateral flow immune assay techniques. These tests can distinguish IgM and IgG antibodies simultaneously against SARS-CoV-2virus in human blood in 15 min, which can distinguish patients at different infection phases (20-22).

TREATMENT

Interferons- α drug delivery device used to administer medication in the form of a mist inhaled into the lungs, broad-spectrum antibiotics, and anti-viral drugs were utilized to decrease the viral load, though, only Remdesivir has revealed capable influence against the virus. Remdesivir only and in mixture with chloroquine or interferon beta meaningly jammed the SARSCoV-2 duplication and patients were stated as clinically improved in case of critically ill patients, plasma transfusions recover clinical condition and decline mortality rates, though, further studies and controlled clinical trials are always instructed to regulate its effectiveness and particular part in treatment of Novel corona virus (2019-nCoV) (23-24).

DISINFECTION OF DENTAL CLINICS

It has been revealed that 2019 novel corona virus (2019-nCoV) remains communicable from 3 h up to 10 days at room temperature, and perseveres better at 63% related with 42% relative humidity. Thus, keeping a clean and dry environment in the dental office would help diminution the perseverance of 2019-nCoV. After treatment, disinfection has to be accepted on daily basis in clinical or high contact areas and once every two weeks in non-clinical or low contact areas. Place the disinfection machine at one corner of the room after filling the disinfection solution in it and switch on the machine. Leave the room for the process for 40 minutes after complete closing (25-26).

EMOTIONAL OUTCOME OF COVID- 19 ON DENTAL STUDENTS AND EXPERTS

The professional safety and health management placed dental care experts/students in the very high contact risk. Dental procedures are known/supposed probable spread of virus. So, this leads to important mental pressure on dentists.

CONCLUSION

During this epidemic condition, dental experts have to take every required step to deliver best dental care with at most safety procedures. We must be alert of these communicable threats that challenge the current infection schedule. Many dental specialists have taken part in ground zero health services during this disaster and have established new information in the procedure (27).

REFERENCES

- [1] Bano N, Batool F, Bin-Jumah MN. Introduction to COVID-19. Alternative Medicine Interventions for COVID-19.:1.
- [2] Yadav R, Vaidya A, Kumar R, Jain S, Shukla AK. PSYCHOLOGICAL DISTRESS IN HEALTHCARE WORKERS DURING COVID-19 PANDEMIC.
- [3] Khanna K, Kohli SK, Kaur R, Bhardwaj A, Bhardwaj V, Ohri P, Sharma A, Ahmad A, Bhardwaj R, Ahmad P. Herbal immune-boosters: Substantial warriors of pandemic Covid-19 battle. Phytomedicine. 2020 Oct 3:153361.
- [4] Huang N, Pérez P, Kato T, Mikami Y, Okuda K, Gilmore RC, Conde CD, Gasmi B, Stein S, Beach M, Pelayo E. SARS-CoV-2 infection of the oral cavity and saliva. Nature medicine. 2021 Mar 25:1-2.
- [5] Khan NM, Barman NC. A Review on Novel Coronavirus Outbreak: Current Scenario of Bangladesh. Open Access Macedonian Journal of Medical Sciences. 2020 Oct 15;8(T1):314-24.
- [6] van der Hoeven B, Oudshoorn D, Koster AJ, Snijder EJ, Kikkert M, Bárcena M. Biogenesis and architecture of arterivirus replication organelles. Virus research. 2016 Jul 15; 220:70-90.
- [7] Payne S. Family Coronaviridae. Viruses. 2017:149.
- [8] Jafary F, Jafari S, Ganjalikhany MR. In silico investigation of critical binding pattern in SARS-CoV-2 spike protein with angiotensin-converting enzyme 2. Scientific reports. 2021 Mar 25;11(1):1-3.
- [9] Samata Y. A Review on Covid 19, Oral Manifestations and Its Impact on Dentistry. International Journal of Health and Clinical Research. 2021 Mar 14;4(5):170-2.
- [10] Almelli T, Alhabbal A, Labban LM. SARS-CoV-2, the Tiny Creature which Scared the Globe. Arabia.;5:6.
- [11] aurens MB. Public health considerations: prevention of infectious diseases. Paediatric Board Study Guide: A Last-Minute Review. 2019 Nov 6:267.
- [12] Jha NK, Jeyaraman M, Rachamalla M, Ojha S, Dua K, Chellappan DK, Muthu S, Sharma A, Jha SK, Jain R, Jeyaraman N. Current Understanding of Novel Coronavirus: Molecular Pathogenesis, Diagnosis, and Treatment Approaches. Immuno. 2021 Mar;1(1):30-66.
- [13] Soliz J. COVID-19 and pneumolysis simulating extreme high-altitude exposure with altered oxygen transport physiology; multiple diseases, and scarce need of ventilators: Andean condors-eye-view. Reviews on Recent Clinical Trials. 2020;15(4):2-1.
- [14] Ayoubkhani D, Khunti K, Nafilyan V, Maddox T, Humberstone B, Diamond I, Banerjee A. Post-covid syndrome in individuals admitted to hospital with covid-19: retrospective cohort study. bmj. 2021 Mar 31;372.
- [15] López-Medina E, López P, Hurtado IC, Dávalos DM, Ramirez O, Martínez E, Díaz Granados JA, Onate JM, Chavarriaga H, Herrera S, Parra B. Effect of ivermectin on time to resolution of symptoms among adults with mild COVID-19: A randomized clinical trial. Jama. 2021 Mar 4.
- [16] Haider Z, Javed M, Yousaf N. Worldwide reemerging of SARS CoV-2 (Severe acute respiratory syndrome coronavirus 2) linked with COVID-19: current status and prospects. Global Journal of Clinical Virology. 2021 Feb 10;6(1):012-20
- [17] Zhu W, Zhang H, Li Y, Ding Z, Liu Z, Ruan Y, Feng H, Li G, Liu B, He F, Zhou N. Optimizing Management to Reduce the Mortality of COVID-19: Experience from a Designated Hospital for Severely and Critically Ill Patients in China. Frontiers in medicine. 2021;8.
- [18] Al-Ramadan A, Rabbah's O, Shah J, Gharaibeh A. Acute and Post-Acute Neurological Complications of COVID-19. Neurology International. 2021 Mar;13(1):102-19.

- [19] Pendergrast M. Inside the outbreaks: the elite medical detectives of the epidemic intelligence service. HMH; 2010 Apr 13.
- [20] Tang YW, Schmitz JE, Persing DH, Stratton CW. Laboratory diagnosis of COVID-19: current issues and challenges. *Journal of clinical microbiology*. 2020 May 26;58(6).
- [21] Chamorro EM, Tascón AD, Sanz LI, Velez SO, Nacenta SB. Radiologic diagnosis of patients with COVID-19. *Radio logia (English Edition)*. 2021 Jan 1;63(1):56-73.
- [22] Carter LJ, Garner LV, Smoot JW, Li Y, Zhou Q, Saveson CJ, Sasso JM, Gregg AC, Soares DJ, Beskid TR, Jervey SR. Assay techniques and test development for COVID-19 diagnosis.
- [23] Jha NK, Jeyaraman M, Rachamalla M, Ojha S, Dua K, Chellappan DK, Muthu S, Sharma A, Jha SK, Jain R, Jeyaraman N. Current Understanding of Novel Coronavirus: Molecular Pathogenesis, Diagnosis, and Treatment Approaches. *Immuno*. 2021 Mar;1(1):30-66.
- [24] Silverstein HR. Clyde W. Yancy, MD, Vice Dean for Diversity and Inclusion Chief of Cardiology in the Department of Medicine, Feinberg School of Medicine at North-western University in Chicago.
- [25] Amanté LF, Afonso JT, Skrupskelyte G. Dentistry and the COVID-19 outbreak. *International Dental Journal*. 2020 Dec 19.
- [26] Pandey PK, Agrawal S, Singh D, Satish K, Kumari P. Sterilization and Disinfection of Dental Operatory. Shashwat Publication; 2021 Feb 2.
- [27] Chaudhary DC, Jayan B, Mukherjee M, Mitra R, Saxena V, Kumar D, Indu S, Khatak A, Sharma M, Megala K, Rathore T. Covid-19 and delivery of dental health care services at Army Dental centre Research & Referral: A holistic assessment. *Journal of Dentistry Defence Section*. 2021 Jan 1;15(1):83.