

Artículo original – Original article

Coronavirus Disease 2019 (Covid-19): is the new challenge for dental practice?

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Introduction

A pneumonia of unknown cause detected in Wuhan (China), was first reported to the WHO Country Office in China on 31st December 2019. Subsequently, a novel coronavirus was detected as responsible of the pneumonia on 10th January 2020. The novel virus has been called SARS-Cov-2 for its homology to the coronavirus responsible of one other epidemic infection: the Severe Acute Respiratory Syndrome (SARS), who affected a lot of people in 2003. The pathogen originated from bat and the intermediate host was the palm civet. The second epidemic infection caused by a coronavirus was the Middle East Respiratory Syndrome (MERS) occurred in 2012. In this case, the coronavirus originated from bat and the intermediate host was the camel. The case fatality ratio (CFR) of COVID-19 has been between 2% and 4%, lower than those of SARS and MERS, which were around 10% and 35% respectively.

According to the literature, 81% of the patients develop only mild symptoms, 14% develop severe symptoms and 5% of the patients are in critical conditions¹⁻². Clinical features of COVID-19 include dry cough, fever, diarrhea, vomiting and myalgia³⁻⁴. An important role in the progression of the disease

is the large number of asymptomatic patients, who make a carrier of the virus. In a non negligible number of case anosmia and ageusia are the only symptoms reported.

On march 26th, Italy recorded 80.539 total cases, of which 62.013 are actually positive, 8165 deceased and 10.361 healed.

The number of patients positive to SARS-Cov-2 in Lombardia, the most affected area, was 34.889.

According to the epidemiological studies, the average age of deceased patients was 78; men deceased more than women (70,9% man, 29,1% female); of those 51,2% had three or more co-morbidities⁵.

Dental care procedures can increase the risk of transmission of coronavirus, since the virus can remain viable and infectious in aerosols for hours⁶⁻⁷.

The objective of this article is to summarize the actions required to carry out a safe practice of dentistry during the epidemic from SARS-Cov-2.

METHODS

Hand searching was performed from January to March 2020, with MEDLINE and EMBASE.

Keywords used were: Covid-19 AND/OR Dentistry, SARS-Cov-2 Covid-19 and aerosol.

Results

We found only 16 articles, because of the recent discovery of the epidemic infection. Four studies showed the potentially SARS-Cov-2 transmission in the dental practice and one showed the aerosol transmission of SARS-Cov-2. They have been all selected for the lack of articles in the literature.

Discussion

According to the studies found in literature, Dental practice can be considered high risk procedure branch of medicine for all the staff operating and for patients⁶⁻¹⁰.

The SARS-CoV-2 can be transmitted in dental settings through the airborne that remain in the room for several hours, direct contact with blood, oral fluids, contact of conjunctival, nasal or oral mucosa with droplets and indirect contact with contaminate instruments and surfaces⁶.

Meng et al. showed, in his article, a new protocol for the management of Dental practice during the Covid-19 epidemic in China. Following this protocol⁹ colleagues of the School and Hospital of Stomatology have been confirmed to have COVID-19. According to their analysis, all these cases were without aggregation, except 2 nurses from the same department. The protocol used prevented further transmission.

Van Doremán et al. concluded that the aerosol and fomite transmission is plausible. According to the authors, SARS-CoV-2 remains in the aerosol for at least 3 hours and for 72 hours after application to different surfaces⁸. Non-emergency dental practice has been postponed in Italy, as suggested by the International guidelines. There has not been a general consensus for Dental management, but on the basis of the Chinese experience and the WHO guidelines, the infection and prevention control is recommended when COVID-19 is suspected^{9, 10, 11}.

Waiting area

- The staff in waiting area should wear disposable surgical mask, cap and work clothes.
- Patients and their accompanying persons must wear surgical mask (in Spain, patient must come alone, no accompanying person).

- Ensure adequate ventilation of the waiting area.
- Separation of at least one meter should be maintained between patients.
- Clean and disinfect frequently public areas including door handles, chairs and desks.

Triage

- Record the temperature of patients.
- Ask patients questions about their health status and history of contact.
- Before the dental procedure, the patient is asked to wash hands and to do mouth rinses during 1 minute with peroxide of hydrogen.

Protection measures for dentist and operating staff

- Use of FFP2, FFP3, N95 masks.
- Use of eye protection (goggles or face shields) and cap.
- Wear a clean non-sterile long-sleeved gown and gloves.
- Two-before-and three-after hand hygiene is suggested.

Dental procedure

- Mouth rinse could reduce microbes in the oral cavity.
- Aerosol-generating procedure should be minimized as much as possible.
- Extraoral radiograph should be preferred.
- Use of the rubber dam is suggested.

Disinfection of the environment

- Ensure adequate ventilation.
- Cleaning environmental surfaces with water, detergent and apply hospital disinfectant.

Conclusions

Despite the small number of articles found in literature, we can conclude that Dental care procedures could increase the risk of transmission of SARS-Cov-2 and we need a new strict protocol of disinfection in the Dental practice.

Further studies need to investigate the impact of transmission of the virus, since dentistry perform aerosol-generating procedures.

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