

IMPLICATIONS OF CORONAVIRUSES IN COMPLEX PROSTHODONTIC REHABILITATION OF THE FRONTAL TEETH

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ABSTRACT

COVID-19 risk of infection from someone who does not pose a kind of symptoms is very small; it is possible to get COVID-19 from someone who has a mild cough without feeling sick. The elderly and people with pre-existing medical conditions (high blood pressure, heart disease or diabetes) appear to develop a severe form of the disease, more often than the other categories. By September 7, in Romania, 95,897 cases of people infected with the new coronavirus (COVID-19) were confirmed. 40,454 patients were declared cured and 12,339 asymptomatic patients were discharged 10 days after detection. On September 8, 883 were found of new cases of people infected with SARS-VOC-2. Coronavirus strains are viruses of the class are seven in number, including the 2019-nCoV. Four of the strains cause common colds, while the others have led to epidemics: SARS (Severe Acute Respiratory Syndrome), which erupted in China in 2002 and spread globally in 2003; MERS (Middle East respiratory Syndrome) - was discovered in 2012 in Saudi Arabia; Covid-19 (coronavirus disease that was discovered 2019) -, disease triggered by the coronavirus that has was discovered in 2019; new strain of coronavirus was first identified in the city 's Wuhan, Hubei Province and China (in December 2019).

Keywords: COVID-19, virus, coronavirus, hygiene habits, dental problems.

INTRODUCTION

On a daily basis, the body is exposed to many factors that could alter the general health in the short or long term. Therefore, it is important that whether we are in isolation at home or quarantined for the Covid-19 virus or other form of influenza, we maintain our hygiene habits at home and

carry them out correctly, as recommended by the dentist or of another specialist.

Coronaviruses (CoV) are a large family of viruses that cause diseases ranging from the common cold to more severe diseases, such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV).

Coronaviruses are zoonotic, which means they are transmitted between animals and detailed oameni. Investigații found that SARS-CoV was transmitted from cats to humans and MERS-CoV from camels to humans. More coronaviruses infect only animals and not and the man.

Influenza viruses have probably been a major cause of disease since ancient times. The first flu epidemic dates back to 1173. The first descriptions of flu-like epidemics date back to the 5th century B.C. in Greece, and have persisted throughout the Christian era, showing that the flu has been present in the human population for thousands of years. Recently, it was assumed that the plague of Athens, which has been between 430 and 427 BC and described by Thucydides, was in fact a flu epidemic aggravated by complications[1-4].

The first influenza pandemic dates back to 1580. Since then, 31 pandemics have been described, the largest of which occurred in 1918-1919 (Spanish pandemic), when, during three successive waves, they were recorded in world 21 million deaths. The flu virus was discovered in 1918, but the first isolation of the human flu virus dates back to 1933 in England. Influenza B virus was isolated in 1939, and influenza C virus in 1950. Since 1940, influenza viruses have been isolated every year in different parts of the world during epidemics and pandemics. A flu epidemic due to influenza A virus occurs every two years, while an epidemic of type B virus (which generally has a lower spread and severity) occurs every 3-4 years.

The virus can spread before symptoms make their appearance. This means that a person who has no symptoms but is already infected,

meets other people and spreads the virus[5,6,7].

All recommendations are available regarding dental health, too. The habit of proper dental hygiene, practiced every day, helps us to maintain an optimal state of the teeth and to prevent the appearance of dental diseases that require more complex and expensive treatments. Because we are in the context of a coronavirus pandemic in which health care must really be our priority, we need to contact the dentist by phone.

Dental emergencies can be of many kinds, from infection of the dental pulp, increased tooth sensitivity, periodontal abscess, to viral stomatitis or damage to a prosthetic work (fall of a temporary dental work and exposure of the recently treated area to bacteria and food debris). Not getting an immediate dental radiography and consultation specialist in communicating with your dentist he can make the best short-term recommendation for the pain they feel.

In order to receive the patient at the surgery, Personal Protective Equipment (PPE) must be used, which are essential materials in providing protection against contamination with possible infections caused by viruses and bacteria; they are needed to protect the medical team and the patient from possible coronavirus infection[8,9,10].

The patient will use disposable equipment consisting of: gloves, mask, robe, cap. Disinfection and sterilization of working and common spaces using common appliances and technologies that ensure maximum efficiency under epidemiological conditions today.

The treatment protocols valid during the SARS-VOC-2 epidemic, which regulate the way in which emergency dental

interventions can be carried out in maximum safety conditions for the patient and the medical team allow the treatment of a single patient in a range of 2.5 hours. The protection against infection does not mean to stop any medical treatment. Somehow reacts the body to the attack of a virus when healthy, and another way when the body has infections, even in teeth, is when we must do everything possible to prevent and treat the early illness getting of any kind[11-19]. We use advanced disinfectants for modern equipment, methods and a lot of information. In a dental clinic patients are much safer than in the tram, subway, supermarket, service, where no one disinfects the surfaces and does not check the health of the people present. When one of our patients is cold, he coughs, sneezes or any other form of affective shows a section of breath, is rescheduled; a cold person can not even be subjected to dental treatments due to respiratory distress, allergic rhinitis, and general physical altered condition; we cannot allow this, in respect to the remaining patients[20-32].

It is the duty of all of us (medical staff, non-medical staff and patients) to join the authorities' efforts to prevent the spread of COVID 19 (Coronavirus).

Dental prosthetics and maxillofacial prosthetics, approach the restoration of dento-alveolar arches, and the second prosthesis of other maxillofacial structures; prosthetics is a specialty that treats the methods of morpho-functional and aesthetic restoration of the dento-maxillary apparatus with the help of biocompatible prostheses.

Orthodontic therapy aims to exert additional stimuli for the development of the upper arch, reduce the growth rate of the mandible, correct the vicious position of the

teeth and soften the upper lip by maintaining the surgically restored vestibular groove and generally ensuring the necessary physiognomic functions.

Dental prosthetics is the branch of dentistry that deals with the replacement of missing teeth or the complex oral rehabilitation of dental arches.

Through dental prosthetic interventions, the dental integrity affected by injuries or degradation is restored, using the prosthetic work - dental prosthesis - fixed or mobile, individualized to the patient, dental veneers, dental crowns, inlays, dental bridges and complex prosthetic works on implants[33-40].

Dental prosthesis is not just about aesthetics. It also requires a functional reconstruction, that means we have taken into account phonation (sound production), mastication (chewing food) and dental occlusion to prevent bruxism (grinding teeth). Dental doctor or specialist who performs a prosthetic needs to visualize the final result and be able to reproduce it.

Zirconium, pressed ceramics (lithium disilicate) or feldspar ceramics are some examples of new materials with the help of which, using the correct protocol, we manage to obtain constructions that are as close as possible to the natural one.

The maxillary frontal group, due to the privileged position on the maxillary dental arch, represents from an aesthetic point of view a challenge for the dentist when his prosthetic restoration is discussed.

Fixed prosthetic reconstruction of the maxillary frontal group, the joint treatment is subordinated to the adjunct prosthetic solution within the mixed or composite prosthetic treatment. Due to the fact that the preparation of the organic substructure

makes an aggression on the tooth, abolishing its natural protection through tooth enamel, thus increasing the risk of anogenesis in the area where the peripheral joint does not perfectly protect the organic substructure.

For this reason, joint prosthetic means are indicated only in patients with satisfactory oral hygiene. Ignoring the state of hygiene in joint solutions is a serious compromise made by the specialist doctor.

Joint solutions require numerous, traumatic treatment sessions, that is why another indication is generated: they can only be applied to patients in good general condition. The joint prosthetic means can be applied on the teeth with the implantation axis parallel or with small deviations that do not require large ablations of dentinal tissue during preparation.

They are indicated in young patients in whom adjunctive solutions are less tolerated. They can be applied on teeth whose mobility is normal and with an integral periodontium, but they also have express therapeutic indications in the containment of teeth with marginal periodontopathy and dental mobility up to grade III.

The joint prosthetic means are indicated in patients with normal occlusion where the distribution of forces on the remaining arch and at the level of the bridge body is achieved uniformly without overloads. Contraindications to joint prosthetic means are imposed by general and local clinical features.

The general condition deeply altered by chronic or very organic diseases can be a special contraindication of the joint prosthesis, or to impose a delay until the general clinical-biological indications allow us to carry out the treatment sessions. Your age may be a biological parameter that occurs to contraindicate

means for prosthetic disorders: patients aged supports hard treatment sessions, meetings being long and traumatic. At a very young age, when the pulp chamber is developed, there is a danger of opening and traumatizing the dental pulp, the joint prosthetic treatment is given up[41-50].

Joint gnathoprosthetic devices are contraindicated on teeth with severe deviations from the axis of normal implantation, due to the preparation that requires the suppression of the dental crown and the imbalance of the prosthesis system - support teeth by transmitting para-axial forces.

They cannot be applied on teeth with insufficiently developed roots, the resistance lever being insufficient to counteract the active forces. Defective occlusion contraindicates the application of joint prosthetic means until the balancing of the occlusion plane is achieved. Poor hygiene contraindicates prosthetic means conjunct up like when you star cleaning checked in time will give satisfactory results.

The joint prosthetic means used in the treatment of partial edentulousness usually consist of two components: the aggregation elements and the bridge cone.

The aggregation elements are microprostheses comprised in variable number in a dental bridge, at least it is necessary to use two aggregation elements. Depending on the extent of the edentation, the aggregation elements can increase in number, including additional teeth on one hemiarcade or both hemiarcades in order to static and dynamic balancing.

The stabilizing elements of Maryland bridges, bridges fixed by collage constitute an obvious progress regarding the minimum sacrifice of amelodentinal substance in surface and depth.

The aggregation elements of the joint of the gnathoprosthetic devices must not be harmful to the dental pulp and the marginal periodontium. They must have a correct morphology in relation to the organic substructure to which they are applied in order to be able to achieve pulpal and periodontal prophylaxis. Aggregation elements must restore the coronary morphology and color of the tooth. The biomechanical conditions that the aggregation elements must satisfy are as important as the biological ones. The aggregation elements must transmit the masticatory forces from the level of the bridge body to the support tooth in its axis. For this, the aggregation element must be placed inside the periodontal support polygon of the abutment tooth[50-57].

Aggregation is achieved by retaining the aggregation element and using additional means (dental cement). Aggregation depends on the extent of contact surfaces between the prosthesis and the organic substructure.

The replacement crown is an excellent aggregation element for joint of gnathoprosthetic devices. Cervical and root aggregation to the organic substructure is very solid, sometimes the removal of such a microprosthesis requires the sacrifice of roots. These microprotheses present important disadvantages as teeth devitalization but the advantage of peripheral aggregating countries peripheral. Replacement crowns transmit in the shaft the stress forces being very resistant by their metallic structure.

Replacement microprotheses have broad indications as elements of aggregation in the anterior areas of the frontal arches when the abutment teeth have extensive coronal dental lesions or when the vestibulo-oral coronal diameter is small and does not allow aggregation by means of a more

conservative element. Due to the very precise pivot, it controls the insertion axis of the joint gnathoprosthetic apparatus.

The bridge body represents the substitution elements of the missing teeth in the joint gnathoprosthetic apparatus. The objectives of the bridge body as an element of the joint gnathoprosthetic apparatus are biological and mechanical.

The biological objectives of the bridge body are of paramount importance both in terms of prophylactic and curative aspect. From a prophylactic point of view, the bridge body prevents dishomeostasis of the stomatognathic system, which can appear through the vertical and horizontal migrations of the remaining teeth.

The bridge body contributes to the correct stabilization of the mandibulo-cranial relations and to the restoration of the functional occlusion, which allows the correct realization of the global functions of the stomatognathic system. The design and realization of the bridge body will have to reduce the rate of bone resorption and at the same time preserve the integrity of the surrounding tissues through a morphological, prophylactic modeling.

The bridge body creates the conditions for a normal swallowing by restoring the occlusal stop abolished by edentulousness. The front edentulous gaps and the lateral closure in the deck bodies functionally modelled have realized a correct phonetical articulation.

The mechanical strength of the bridge body must be sufficient to prevent it from deforming under the action of occlusal forces. The aggregation element is calculated in relation to the position of the bridge body on the arch. The proper design of the bridge body favors the axial transmission of forces to

the abutment teeth. The deck body is characterized by amplitude, width, profile, ratio edentulous ridge, technological achievement.

Numerous clinical maneuvers of pre-prosthetic training (coronoplasts, gingivo-coronoplasts, removal of defective works from this point of view) allow the creation of optimal conditions for the realization of bridge bodies that respect the harmony and amplitudes of sagittal curves. The most important characteristic of the bridge body is its relation to the edentulous ridge.

. Acrylic materials, composites can become sources of mucosal irritation when there is direct contact with it, because the macromolecular structure is allergenic.

From a clinical point of view, the indications for the use of all-ceramic systems for fixed prosthetic reconstructions are limited. Not all existing technologies offer this alternative and not all clinical situations can be covered by these procedures.

The oldest technology used in the case of fixed works without a metal frame is the ceramic crown burned on platinum foil, also called the "queen of crowns". After restorations made of bone or ivory, the discovery of Fauchard, porcelain revolutionized the field of restoration materials. The material that met all the qualities was platinum foil with a thickness of 0.02 - 0.03 mm.

Prosthetic as a whole include a wide range of technological possibilities that can be translated into as many therapeutic opportunities. They vary from the conventional techniques to the most current technologies with a single purpose: the biological integration as perfect as the restoration of morphological and function as more appropriate.

In parallel with the development of computer technology came the CAD / CAM procedures whose headquarters were a laboratory in Stockholm. Through a computer system, data about certain works were sent here, from different laboratories. The CEREC-1 procedure was developed for dental offices with the help of which inlays and crowns could be made, but today can also be used in dental laboratories.

The notion of anterior guidance refers to the static or dynamic ratio between the maxillary and mandibular frontals, corresponding to the trajectory between position 2 and 3 on the Posselt diagram.

The works of Guichet, Huffmann, Aull taught us that there is a direct proportional relationship between the slope of the previous guide and the height of the cusps or the depth of the dimples. We must add that a previous guide that is too marked can lead to a mandibular recoil that generates tissue compressions that are dangerous for joint health.

There are currently numerous studies that use the recording of mandibular dynamics as a diagnostic element to validate dysfunctional syndrome. In achieving mandibular dynamics, the main factors are related to the previous guidance, but their action is limited by morphological formations such as temporo-mandibular joints, dental arches, extra-articular ligaments.

Occlusal reconstruction uses known prosthetic means: the method of coronary reconstruction, coating, substitution, etc. and from this point of view it represents the most reliable but the least conservative technique in terms of the biological principle, the elements of aggregation requiring repairs of organic structures.

The indication for the institution of prosthetic treatment depends on: an initial state of the stomatognathic system, a contraindication to the selective grinding of occlusal balancing; refusal or impossibility of orthodontic treatment; prosthetic treatment of several stages.

Methodology embodiment of the artificial occlusal relief must be subject to the principles of the ideal occlusion.

The complex oral rehabilitation of different clinical cases encountered in dental practice is largely a challenge for the dentist, due to the high degree of different but present damage on all elements of the system; the dysfunction that sets in is difficult to diagnose and difficult to treat requiring attention and clinical sense from the dentist.

Most frequently, the coronary destructions following dental caries are accompanied by occlusal disorders through parallel versions and excretions, and periodontal disease is installed, which also generates block extrusions of overworked teeth.

If edentation also occurs, the disorders also extend to the vertical

dimension of occlusion, which changes most frequently by shrinking, which creates conditions for muscle and joint damage.

Complex disorders of all elements of the system become difficult to treat and the case requires special treatment conditions. In the transient situation in which the treatment can stop the installation of some changes that can be included in the picture of the dysfunctional syndrome, the urgency and precision of the treatment is required[58-64].

CONCLUSIONS

The prosthetic restorations of the front teeth made by dental ceramics manage in most cases to restore, due to the qualities of the materials used, the natural appearance and natural beauty of the teeth, creating the impression of vitality, translucency and volume.

2019-nCoV is a respiratory virus, and the way it spreads is similar to the way it transmits respiratory diseases: the coldness or the flu. The only and most effective measure recommended by the WHO is disinfection.

All authors contributed equally to this work.

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