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Temporary Filling of Teeth At Home, When It Is A Dental Emergency and There Is No Dentist

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ABSTRACT

There are populations in which people have to take care of their health for themselves. We can talk about medicine where there are no doctors and dentistry where there are no dentists. The objective of this work is to collect possible products used at home to fill teeth temporarily when it is a dental emergency before a dentist makes the definitive treatment. In our files, Internet search engines, and in various databases (Medline, Scielo), a review of scientific works and information about provisional cement made at home, for filling teeth in an emergency, has been made before being treated by a dentist. Some products that are at home, which can be used for the temporary filling of teeth are cotton, chewing gum, bread (flour), plaster, cement, toothpaste, baking soda, common salt, soap, wax, alcohol, and peroxide. Many of these products are soluble in contact with saliva and others can damage the health of the tooth. To fill teeth temporarily, a cotton swab soaked in alcohol or hydrogen peroxide (due to its disinfection capacity) is usually useful and this could be temporarily covered with plaster or cement. The wax may temporarily prevent food from remaining in the tooth socket or from rubbing its cutting edge on the tongue. Any of the home remedies described for filling teeth are temporary and you should go to the dentist for definitive treatment as soon as possible.

Keywords: tooth; cement; temporary; homemade; emergency; temporary filling

INTRODUCTION

Same populations are far from basic health facilities. In some cases because there is a great geographical distance and in others, because the means of transport and infrastructure are deficient. There may be a shortage of professionals and at other times people cannot afford dental services because they are too expensive. Even in rich countries, people without insurance to pay for their dental care do not get the treatment they need [1]. Sometimes the difficulty of access is temporary, such as coinciding with a toothache on the weekend or on a holiday, in which the nearest dental clinics are closed. This population group, with difficulties in accessing a nearby dental clinic, seeks effective remedies, even if they are temporary. They are populations in which people have to take care of their health for themselves. We can talk about medicine where there are no doctors [2] and dentistry where there are no dentists [1].

The most common dental injuries are cavities. It is a great challenge to try to fill a hole in a tooth provisionally until a dentist can do a proper and definitive treatment. The temporary dental filling stops the entry of new bacteria that destroy the dental tissue and prevents cavities from worsening. It also prevents damage to the tongue due to permanent irritation from the sharp edges of the cavity [3]. There are products on the market that can be used as temporary cement (examples: Fermit © by Datax, Cavit © by Espe), but they are not available to anyone, as they are for professional use by dentists. Anyone else could try to fill a tooth cavity temporarily, or clean teeth using products that were in a house.

Thus, for example, the brushing of teeth is described by rubbing with powdered charcoal, with salt, or even making a paste by mixing salt and bicarbonate in equal amounts [2]. The possibility of oral cleaning using adsorption techniques with disposable material has also been described as a new alternative for oral hygiene [4]. On the internet, it is easy to find web pages where a multitude of products are sold to fill teeth temporarily [5], and there are even guides on how to do it [6,7]. This would avoid external aggressions on the tooth by heat, cold, or sugar, This would avoid external aggressions on the tooth by heat, cold, or sugar, while that person awaits his appointment with a dentist [3]. The objective of this work is to collect possible products used at home to fill teeth temporarily when it is a dental emergency before a dentist makes the definitive treatment.

MATERIAL AND METHODS

In our files, Internet search engines, and in various databases (Medline, Scielo), a review of scientific works and information about provisional cement made at home, for filling teeth in an emergency, has been made before being treated by a dentist. The information considered of greatest interest for this work has been selected and its advantages and disadvantages have been collected.

RESULTS

Table 1 lists some products that can be obtained at home to be used as a temporary tooth filling. About them we can point out the following:

Cotton: the chemical composition of cotton fiber is 94% cellulose, 1.23% protein, 1.2% pectic substances, 1.2% mineral substances, 0.6% wax, 0.3% sugar, and the rest for other elements [8].

Chewing gum (chewing gum): basic gum is made up of 40% natural latex, 50% rubber (SBR, etc.) and synthetic resins (polyvinyl acetate), 8% calcium carbonate, and 2 % of other products, such as waxes, fats, etc. [9,10].

TABLE 1: Some products that are at home, which can be used for the temporary filling of teeth

Cotton
Chewing gum
Bread (flour)
Plaster
Cement
Toothpaste
Baking soda
Common salt
Soap
Wax
Alcohol
Peroxide

Flour: the various vegetable flours have starch in common, which is a complex carbohydrate composed of two different polymers of glucose, amylase (25%) and amylopectin (75%) [11].

Gypsum: it is semi-hydrated calcium sulfate ($CaSO4 \cdot ½H2O$) and is used as a construction material. It is sold ground, in powder form, which once mixed with water, can be used directly. Other chemicals can be added to modify its setting characteristics, strength, adhesion, water retention, and density. The purest, finest-grained form of industrial gypsum is called plaster. [12]

Cement: it is formed from a mixture of calcined and subsequently ground limestone and clay, which has the property of hardening after being in contact with water. [13]

Toothpaste (toothpaste or toothpaste): used for cleaning teeth, most often with a toothbrush. They usually contain fluorine such as sodium monofluorophosphate (Na2FPO3), clay, some quartz, sodium fluoride (NaF), and calcite. Its components include: water and humectants (glycerin) (75%), abrasives (rocks / salt / sand) (20%), foam and flavor agents (2%), pH buffers (2%), colorants and agents agglutinating (1.5%), fluoride (0.15%), and in some cases sodium monofluorophosphate [14].

Bicarbonates: they are acid salts derived from carbonic acid (H2CO3) that contain the bicarbonate anion (HCO3-). The most important bicarbonate is sodium bicarbonate, with the formula NaHCO3. As they are salts of a weak acid, soluble bicarbonates are basic [15].

Common salt (table salt): is a type of salt called sodium chloride (or sodium chloride), whose chemical formula is NaCl [16].

Soap: it is a sodium or potassium salt resulting from the chemical reaction between an alkali (sodium or potassium hydroxide) and a lipid; This reaction is called saponification. The lipid can be of plant origin (like coconut oil) or animal (like lard). Soap is soluble in water. Due to its detersive properties, it is used for washing clothes, the body, etc. [17].

Waxes: they are esters of long-chain fatty acids (C14-C36) with alcohols of high molecular weight, that is, long chains (C16 to C30). They are substances insoluble in water but soluble in non-polar, organic solvents. All waxes are organic compounds, both synthetic and of natural origin. They do not go rancid, since they do not contain unsaturations susceptible to oxidation. [18].

Alcohol: it is an organic compound that contains a hydroxyl group attached to an aliphatic radical or one of its derivatives. It is used in medicine as an antiseptic and disinfectant [19].

Hydrogen peroxide: it is hydrogen peroxide and its formula is H2O2. It is used in medicine as an antiseptic and disinfectant [20].

DISCUSSION

There are populations where there is no possibility of adequate medical or dental treatments. In those cases, people seek home remedies for their health problems. For example, when a dental prosthesis has broken, there are cases in which common home-use glues, such as cyanoacrylates, have been used to incorrectly bond that dental prosthesis [21]. It has also been used as an adhesive for dental fractures [22,23]. However, cyanoacrylate can have harmful effects on health. Short-chain cyanoacrylates (ethyl and methyl cyanoacrylate) are not suitable for medical use because they rapidly degrade with the emission of toxic products. Long-chain cyanoacrylates (octyl and butyl cyanoacrylate) are widely used in medicine in different specialties because they degrade more slowly and generate less toxicity [24].

Cotton is an easy product to adapt to any cavity. It serves to plug it and can be impregnated with a disinfectant such as alcohol or hydrogen peroxide. However, it has the drawback that it easily absorbs saliva, allowing contamination of the dental cavity. Chewing sugar-free gum after a meal can prevent cavities by stimulating the flow of saliva in the mouth, which serves to cleanse it of food and neutralize acids. Saliva also contains additional calcium and phosphate that promote enamel strengthening. Sugar gum also increases saliva flow, but the sugar it contains is used by plaque bacteria to generate acidic by-products [10]. When a dental cavity is filled with bread, which mainly contains flour, rubbing areas are avoided, but it has the disadvantage that it is a soft material, which becomes wet and contaminated with saliva. The flour in its composition favors the growth of germs, which is why bread is not recommended for temporary tooth filling. Plaster and cement harden on contact with saliva, but should not be applied without first cleaning the dental cavity. Toothpaste is a product used to clean the mouth and for this reason, it has also been used to fill cavities in the teeth. It has preventive effects because it has fluoride in its composition, however, it is not useful because it softens with saliva. Baking soda has also been used frequently to clean teeth, but it has little consistency to fill teeth temporarily because it is soluble in saliva. Common salt has been used as a treatment in natural medicine, to reduce inflammation of the gums and heal, but it is also not used to fill teeth temporarily because it is soluble with saliva. Soap can be used to fill any cavity, but it is also soluble in water, so it will lose its filling function in contact with saliva. In contrast, waxes are insoluble in water and can be molded to fill any dental cavity, which is why their use as a temporary filling in teeth has been recommended [25].

According to previous studies, for a product to be of medical use, it must be biocompatible, non-toxic to tissues, bacteriostatic, hemostatic, and easy to handle [24]. The application should be simple and easy to remove by the dentist to fill the tooth permanently. Such a dental filling is a temporary solution and should not be used for a long time.

The dentist must make the definitive treatment as soon as possible [1,3]. Those who advise covering the hole provisionally, also advise not to cover it when there is an abscess with an inflamed face [1]. Although many products are sold to temporarily cement teeth [5] and there are even guides on how to do it [6,7], ultimately it is advisable to go to the dentist as soon as possible to receive definitive treatment.

CONCLUSION

To fill teeth temporarily, a cotton swab soaked in alcohol or hydrogen peroxide (due to its disinfection capacity) is usually useful and this could be temporarily covered with plaster or cement. The wax may temporarily prevent food from remaining in the tooth socket or from rubbing its cutting edge on the tongue. Any of the home remedies described for filling teeth are temporary and you should go to the dentist for definitive treatment as soon as possible.

CONFLICT OF INTEREST

The author reported no conflicts of interest related to this study.

REFERENCES

[1] Murray Dickson. (2005). Donde no hay dentista Spanish translation of "Where There Is No Dentist". Published by Hesperian Health Guides, Capítulo 13. Cómo tapar los dientes con cemento. Pags 205-220. (Accessed January 7, 2021 at https://hesperian.org/home-spanish/resources-in-spanish/).

[2] David Werner, Carol Thuman, Jane Maxwell. (2017). Donde no hay doctor. Spanish translation of "Where There Is No Doctor". Published by Hesperian Health Guides. December, (Accessed January 7, 2021 at https://hesperian.org/home-spanish/resources-in-spanish/).

[3] Laboratorio Medident. CIMADENT empaste dental provisional. (Accessed January 7, 2021 at https://www.laboratoriomedident.es/inicio/14-empaste-dental-cimadent.html).

[4] González-González JM. (2014). Limpieza bucodental mediante técnicas de adsorción con material desechable. Nueva alternativa de higiene oral. Av. Odontoestomatol, 30 (6), 299-305.

[5] Anónimo. Temporary tooth filling. (Accessed June 6, 2021at https://www.amazon.es/s?k=temporary+tooth+filling&hvadid=80195725881613&hvbmt=bp&hvdev=c&hvqmt=p&tag=bingamazonest-21&ref=pd_sl_6hwf6k41i2_p).

[6] Anónimo. Homemade Temporary Tooth Filling; A How-to Guide. (Accessed June 6, 2021 at https://www.dental-detective.com/homemade-temporary-tooth-filling-a-how-to-guide/#:~:text=Homemade%20Temporary%20Tooth%20Filling%20%E2%80%93%20Option%201%20You,can%20be%20found%20at%20any%20local%20drug%20store).

[7] Peter Mayhew. Homemade Temporary Tooth Filling – How To Guide. (Accessed June 6, 2021 at https://dentaldorks.com/homemade-temporary-tooth-filling-how-to-guide/).

[8] Anónimo. Algodón. (Accessed June 2, 2021 at https://es.wikipedia.org/wiki/Algod%C3%B3n).

[9] Pellini Claudio. Historia y composición del chicle o goma de mascar. (Accessed June 2, 2021 at https://historiaybiografias.com/chicle/)

[10] Anónimo. Goma de mascar. (Accessed June 2, 2021 at https://es.wikipedia.org/wiki/Goma_de_mascar).

[11] Anónimo. Harina. (Accessed June 2, 2021 at https://es.wikipedia.org/wiki/Harina)

[12] Anónimo. Yeso. (Accessed June 2, 2021 at https://es.wikipedia.org/wiki/Yeso).

[13] Anónimo. Cemento. (Accessed June 2, 2021 at https://es.wikipedia.org/wiki/Cemento)

[14] Anónimo. Dentrífico. (Accessed June 2, 2021 at https://es.wikipedia.org/wiki/Dent%C3%ADfrico)

[15] Anónimo. Bicarbonato. (Accessed June 2, 2021 at https://es.wikipedia.org/wiki/Bicarbonato)

[16] Anónimo. Sal común. (Accessed June 2, 2021 at https://es.wikipedia.org/wiki/Sal_com%C3%BAn)

[17] Anónimo. Jabón. (Accessed June 2, 2021 at https://es.wikipedia.org/wiki/Jab%C3%B3n)

[18] Anónimo. Cera. (Accessed June 2, 2021 at https://es.wikipedia.org/wiki/Cera)

[19] Anónimo. Alcohol. (Accessed June 8, 2021 at https://es.wikipedia.org/wiki/Alcohol)

[20] Anónimo. Peróxido de hidrógeno. (Accessed June 8, 2021 at https://es.wikipedia.org/wiki/Per%C3%B3xido_de_hidr%C3%B3geno).

[21] Winkier S, Wood R, Facchiano AM, Boberick KG, Patel AR. Prosthodontic self-treatment with acrylic resin superglue: a case report. J Oral Implantol. 2006;32(3):132-6.

[22] Chappelow CC, Byerly TJ, Inzino CS, Millich F, Eick JD. Design and development of isocyanoacrylates as dental adhesives. J. Dental Res. 1996;75:761-7.

[23] Hile LM, Linklater DR. Use of 2-octyl-cyanoacrylate for the repair of a fractured molar tooth. Ann Emerg Med. 2006;47(5):424-6.

[24] González González JM. (2012). Cianoacrilato. Definición y propiedades. Toxicidad y efectos secundarios. Aplicaciones en medicina y odontología. Av. Odontoestomatol, 28 (2), 95-102.

[25] Jeffery Keilholtz. How to Make a Strong Compound Tooth Filling. (Accessed June 6, 2021 at https://www.ehow.com/how_10065659_make-strong-compound-tooth-filling.html).