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Ornamental dentistry: Adding glitz to your smile

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***Abstract*---**Dental and non-therapeutic dental accessories are gaining popularity and are becoming mainstream, especially among the youth. The rise of cosmetic dentistry in the last few decades and better reception of aesthetic dental procedures by the public might be the reason why. Even though dental as seen in the current dental practices may seem a new concept, but the idea is at least 4500 years old. There are various types and forms of dental . Some are fixed while others are removable. While they sound enticing they also have their occasional complications such as increased plaque levels, gingival inflammation and or recession, caries, diminished articulation, and

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metal allergy. But these can be prevented if proper precautions are taken before initiating the procedure as well as while executing it.

***Keywords*---**dentistry, grills, tattoo, tooth jewelry, Skyce.

Introduction

The world of fashion changes every day and dentistry isn't immune to these changes. The drive for better aesthetics has given rise to the development of new materials and techniques in dentistry. Dentists today are finding that more and more individuals desire perfectly aligned, sparkling white teeth and still more tooth jewelry. There is a history for dental jewelry as it was considered a symbol of religion, tribe, culture, and gender. The dental jewelry used today includes removable tooth jewelry, tooth rings, tooth tattoo, from the tooth. These accessories though enhanced beauty, have reported complications ranging from plaque accumulation, inflammation of gingival and/or recession, decay, defective occlusion, tooth fracture, and metal allergy. Even though these accessories are said to enhance beauty, they can often cause complications ranging from plaque accumulation, gingival inflammation or recession, decay, defective occlusion, metal allergy, and tooth fracture. Adolescence is a period of the tremendous transformation of body and mind. The appearance of the teenager becomes a means of communication, a language to express self-identity [1]. Tooth enhances appearance and improves self-esteem and self-confidence.

Dentistry, especially aesthetic dentistry, has been around for a long time. A particular instance from Indian mythology is as follows, during the Mahabharata war, Lord Krishna wanted to test the generosity of Karna(Commander of the Kaurava army). So he disguised himself as a Brahmin and asked for alms and Karna proves his benevolence by donating his gold-filled tooth. This part of the epic is interesting as it indicates the presence of tooth restoration as early as 2500 BC. [2]. Creating a beautiful smile has to be customized for each individual's needs and desires based on their facial form, function, and character. Dentistry has advanced from pain relief and restoration to aesthetics. Being a dentist of the 21st century we need to have knowledge of newer advances in addition to regular therapeutic procedures.

History

Tooth has been a practice that can be traced back to 2500 BC. The Mayans were known to make and place stone inlays which were beautifully carved on the front teeth in prepared cavities. Native Americans were known to carve notches and grooves and placed semiprecious stones in them. In those days, cavities were prepared on the teeth to place . The paste used to bond jewelry to the teeth was plant sap mixed with natural chemicals and crushed bones.[3]

Types of tooth jewelry
Grill jewelry

Figure 1

It is mostly worn by 18 to 40-year-old hip hop and rap artists and DJs, it represents wealth and fame, colloquially known as "flexing". The grills are indicative of the vocal and verbal dexterity that means a lot to the African American community. Grills are made of precious metals like Platinum, Gold, and silver and very often are inlaid with precious stones. Grills cover the whole maxillary and mandibular anterior teeth. They used to be permanently fixed after tooth preparation but nowadays grills are generally removable.[4]

Twinkles and dazzlers

Dazzlers are precious stones or diamonds embedded onto a metallic base made in a particular way as to be bonded to the tooth and these jewels have a rear side, like in an orthodontic bracket for the sake of longevity. While twinkles consist of pure gold along with precious stones such as sapphires, diamonds, and rubies. These are available in the market in various shapes like diamond, star, heart, triangle, droplet, and round shape. These jewels are attached to the teeth by first etching the enamel and then bonding them with flowable composite usually near the incisal edge for maximum visibility.[3] The maxillary anterior teeth, particularly the maxillary lateral incisor is the most preferred tooth for fixing while white coloured jewels are the most favored. Proper oral hygiene maintenance and regular recall visits to clinician are essential to avoid debonding and caries.(5)

Figure 2

Tooth gems

Tooth gems are crystal glass mounted on a thin foil of aluminum. They are available in various colors. A particular variety called Skyce are available as blue crystals or clear and sapphire–white. Another variety called Brilliance tooth is available in 3 different variants: crystal clear, sapphire blue, and ruby red and are available in two sizes - 1.8mm and 2.6mm. The least expensive version of tooth is the Rainbow crystals. These are essential for short-term commitment or if the individual is looking for a lower-cost option. Rainbow crystals are available in 10 different colors and two sizes (1.8mm and 2.5mm).[6]

Procedure

Step by step application

1. A rubber dam must be placed to avoid the aspiration or swallowing of the tooth jewelry.
2. The surface of the tooth meant to come in contact must be professionally cleaned with a fluoride-free polishing paste using brushes or cups.
3. A 37% phosphoric acid gel, like Total Etch, is applied to the surface that will come in contact with the jewelry. The diameter of the etched surface must be a little larger than that of the stone. Note: The etching time should be at least 60 seconds,
4. After etching, thoroughly rinse off the phosphoric acid with water.
5. Carefully dry the tooth surface.
6. Apply gently, a thin coat of bonding agent. Allow it to flow onto the etched region. Leave it for a maximum of 20 seconds
7. Light cure for 20 sec
8. Apply a small amount of flowable composite to the tooth.
9. Use a jewel handler to easily pick up the jewel and press it into the center of the composite
10. Use a light-curing lamp and start curing the composite from the top for about 60 seconds. While light-curing also focuses on the sides for a few seconds and also cures the composite from the back of the tooth for another 60 seconds. This is to make sure that the hardening of the composite happens evenly. The total curing time is around 180 seconds. (Make sure you follow the instructions of the bonding system you use)

It would take 20 seconds for the jewel to set into the composite. Once it's removed from the case do not touch the jewel with your fingers. Be careful to avoid skin contact with the special coating on the rear side of the jewel to achieve maximum adhesiveness. It takes about 3 to 5 minutes to safely affix the jewel to the surface of the tooth. Topical fluoride is applied to the enamel to remineralize the etched area. 11. If, in rare cases, excess has to be removed, only use silicone polishers. Care should be taken to not let the rotary instruments touch the stones to prevent them from getting scratched.

Removing the tooth jewel

The jewel is to be detached in the same way as an orthodontic bracket and the enamel will not be damaged. Following the removal of the gem, the tooth needs to be polished, to get rid of any remaining bonding materials on the surface of the tooth. A scalar or a rubber polisher is to be used when removing the stone. Use a polishing tool to remove leftover bonding material or composite. It is recommended to treat the tooth with fluoride, so remineralization and stabilization of the enamel is provided.[7]

Removable teeth jewelry

In this type of dental jewelry the stones are permanently mounted on an indiscernible glass clear micro-skin that fits accurately onto the teeth. This doesn't require etching or preparation of the teeth. Once the impression is made, the micro-skin is fabricated in the lab for applying the precious stones. This is removable by the patient and can be fitted back when necessary.[4]

Figure 3

Veneer jewelry

They are usually made from precious jewelry, mostly gold and Platinum. For veneer jewelry tooth preparation is done to accommodate the metal veneer which is usually embedded with precious stones. The teeth usually chosen for such kinds of jewelry are the canines and the premolars. [4]

Tooth rings

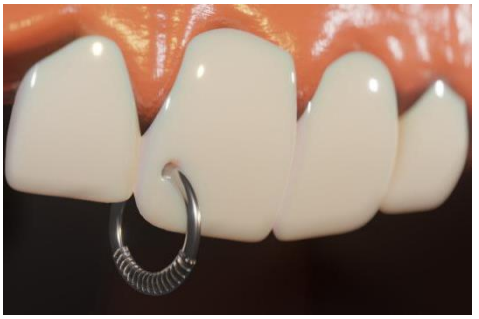

Figure 4

Tooth preparation is required. A small hole is placed on the disto-incisal corner of the maxillary incisors, a small hole is placed and the ring is hung through it. The

upper central incisors are the most commonly preferred teeth. The extent of the hole depends on the thickness of the ring selected and it should be carefully done to avoid any disturbance in the occlusion. [3]

Tooth tattoo

Figure 5

Tooth tattooing is an indirect procedure and tooth preparation is required to make the crown. It is done by applying various shades of porcelain in various designs carved on a ceramic crown or bridge by a lab technician and then fired in a ceramic furnace. Once the dentist makes an impression of the tooth and makes a mold and confirms that it is correctly sized for the tooth, it is then sent to a lab that specializes in dental jewelry, and a skilled artist that typically does the tattoo work on the artificial crown, carefully paints miniature design onto the tooth crown which is then cemented onto the prepared tooth. Other than caring for the crown itself, patients usually do not have to take any special precautions to maintain their dental tattoos. These dental tattoos can be removed by grinding away the upper layers of the crown. This is especially useful in the case of people who are done with a single tattoo design but do not want to replace the entire crown. The whole procedure is painless except for mild sensitivity. [2]

Jewelry from teeth

Though not as common as other forms of dental jewelry, human natural teeth are often used in and ornamentations, even to this day. The teeth of animals were used as in ancient times. The teeth of tigers, sharks, and the tusks of elephants were commonly used. But these days, even human teeth are used in ornaments like finger rings and pendants. In the last few decades mothers transforming the milk teeth of their children into jewelry have become a lot more mainstream. The roots of this practice can be traced back to the Victorian ages.

Complications associated with tooth jewelry

Tooth jewelry is highly recommended only in those patients who maintain a good oral hygiene, for the following reasons:

1. The attachment area of the tooth has to be as clean as possible as it is highly prone to plaque accumulation.
2. Allergy, aspiration or chronic injury to adjacent teeth/mucosa, including tooth fracture.

3. Not be advised to the patients having high caries risk as some of the tooth jewelry procedures require tooth preparation which causes permanent defects on the tooth surface and thus makes these areas prone to caries.
4. Metal allergy, diminished articulation, and gingival inflammation are also some of the major complications associated with tooth jewelry procedures.
5. Sometimes movable jewelry may cause abrasion of teeth. Fixed teeth grills are very hard to be kept clean and hence a removable type would be a better alternative.

Therefore in order to get rid of these complications, certain precautions need to be followed as mentioned below.

1. For fastening precious stones excessive etching should be avoided.
2. Tooth jewelry which does not require any tooth preparation or modifications are more preferable. The jewelry may cause ulceration of the lips especially when lip function is restricted.
3. It is recommended to not use an electric toothbrush for the first few hours after the tooth jewel has been attached, even though the presence of a gem will not make any difference on dental hygiene.

Discussion

Aesthetics has undeniably become an important aspect of dentistry over the past few years and has led to the development of new materials and techniques.[1] Everybody wishes to build up their own visual style which makes them unique and yet identifiable among the crowd. Cutting-edge technology, superior skills, and vast knowledge can be utilized to create beautiful smiles for people's needs and desires and this can be created with careful consideration to the patient's facial form, function, and individual characteristics.

Kim HJ et al., [10] reported a case describing the management of white spot lesion by using tooth jewelry, wherein white spot lesions can be treated with resin infiltration; a fairly new minimally invasive technique has the advantage that when the micro-porosities are all filled with resin, the whitish appearance of the enamel lesions disappears and look identical to sound enamel.

Aesthetics can be improved with the help of tooth jewelry and by doing so, helps elevate the patient's self-esteem and self-confidence. As the attachment area of a tooth gem is highly prone for plaque accumulation, tooth jewelry should only be indicated in patients with good oral hygiene practices. The concerned area has to be kept extremely clean as possible and should not be advised in a patient with high caries index [11]

Conclusion

Dentistry now is not only limited to treating dental problems and diseases but also importance is given to aesthetics to look beautiful. Nowadays patients prefer dentists who are experts in recent advances and can suggest alternatives instead of traditional procedures. As dentists, it is our duty to explain and inform the patient about the pros and cons of each new trend.

References

1. Akbarov, A. N., & Xabilov, D. N. U. (2021). The condition of the oral cavity in patients who have had a viral infection COVID-19. *International Journal of Health & Medical Sciences*, *4*(4), 381-383. https://doi.org/10.21744/ijhms.v4n4.1796
2. Anandkumar G Patil, Tooth jewelry: A simple way to add sparkle to your smile.
3. Jaybala B, Dhruti P, Arpit P, Darmina J. Fashion trends in Dentistry. J Res Med Dent Sci. 2014;2(1):102–04. [Google Scholar]
4. Kim HJ, Karanxha L, Park SJ. Non-destructive management of white spot lesions by using tooth jewelry. Restor Dent Endod. 2012;37(4):236–39. [PMC free article] [PubMed] [Google Scholar]
5. Monisha.N,Dhanraj G,SheebaSP,Naveen K.Dental jewelry –A Review.J of pharmacy research.2017:12(1):73-75
6. Patil AG. Tooth jewelry: A simple way to add sparkle to your smile. Ind J Dent Adv. 2010;2(4):356–58. [Google Scholar]
7. Peter T, Titus S, Francis G, Alani MM, George AJ. Ornamental dentistry- an overview. J Evolution Med Dent Sci. 2013;2(7):666–76. [Google Scholar]
8. Saurabh Ramtekkar, Sonia Baghla, Manjusha Warhadpande, Darshan Dakshindas, Sadhana Raina. Sparkling smile with tooth jewelry; ornamental dentistry: A case report. Int J Appl Dent Sci 2021;7(1):101-103
9. Sharma M, Sharma RK, Upadhyay M, Mishra P. Making a fashion statement with dental jewelry. I J Pre Clin Dent Res. 2014;1(3):53–55. [Google Scholar]
10. Sonal B, Vikram A, Nidhi G,Preety G,,Mohit B,sahil T.tooth jewelry-its knowledge and practice among dentists in tricity, India
11. Sonal B,Nidhi G Preety G,Vikram A Nishant M.tooth jewelry : fashion and dentistry go hand in hand indian journal of dental advancement 2015:7(4):263-267
12. Suryasa, I. W., Rodríguez-Gámez, M., & Koldoris, T. (2021). Health and treatment of diabetes mellitus. *International Journal of Health Sciences*, *5*(1), i-v. https://doi.org/10.53730/ijhs.v5n1.2864
13. Yadav P, Mohapatra AK, Jain A. Oral piercing/ART-fashion or risk. J Adv Med Dent Sci Res. 2014;2(2):100–03. [Google Scholar]