A review on anterior teeth restorations

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Abstract
Restorations of teeth have been a need of time since very long. As the time have passed, there have been different advances in the field of restorative materials and tooth restorations. Many newer restorative materials are now available to us for the purpose of tooth restorations still some of the older materials are materials of choice for a sector of society. This article focuses on few such restorative materials and also tells us about a few patents granted in such field.

Keywords: Anterior, Restoration, Patents etc.

1. Introduction
A restoration or a filling is a restorative material which is used to restore the function, anatomy and esthetic of a missing tooth structure in a patient’s mouth. The loss of structure, function and esthetic mainly results due to the loss of tooth structure resulting mainly from caries or trauma. Sometimes a dentist also results in loss of these properties in a tooth during the time of tooth preparation to improve the esthetics of the intended restorative material been given to the patient.

The missing tooth structures which are been replaced by the newer implants also comes under the category of the dental restoration. The restorations can be further of two types mainly: direct restorations and indirect restorations. Direct restorations are those which are done directly onto the tooth in patient’s mouth and indirect are the ones for which the lab processing is required and cannot be done directly into the mouth of the patient at the same time. Root canal treatment also comes in the category of dental restorations. It is used to replace the infected pulp with a biocompatible material to restore the decayed or diseased tooth. Any tooth which is being restored by any restorative material has to undergo two main processes namely, (1) preparing the tooth for placement of restorative material and (2) placement of restorative material. Tooth preparations are carried out for the purpose of making the tooth ready for receiving the restorative materials. This process requires a set of unique dental burs designed especially for this purpose only. Many newer restorative materials are now available to us for the purpose of tooth restoration. Some of the restorative materials are as follows:

2. Dental Composite Resins
These are types of artificial resins which are used widely throughout the world in dentistry as restorative material. These are used as restorative materials since they are insoluble, esthetic, easy to manipulate and cheap. These are composed of Bis-GMA monomers or some Bis-GMA analog. Dimethacrylates are the main reason for its flowability. Each and every component is added in certain concentration to achieve a required product. These newer restorative materials forms chemical bonds with the tooth structure and so doesn’t requires any of the retentive features to be present in the tooth preparation.

3. Dental Compomers
These are another type of restorative materials which is used in dentistry since 1990s and are formed by a hybrid formation of two other dental materials: dental composites and glass ionomer cement. Polyacid modified resin composite is the other common name given to it. They are widely used for restorations in low stress bearing areas such as for the restorations of class v cavity restorations. There composition is similar to composite still it has been modified by certain ingredients making it a polyacid modified composite. Unlike the composite, compomers still requires retentive features in tooth preparation. They release fluoride making them a choice of restorative materials in cases where fluoride releasing restorations are required.

4. Glass Ionomer Cement
Also known as GIC. It is a restorative material which is known to all dentists as cement used for filling teeth and as luting cement. There occurs a reaction of silicate glass powder and polyalkenoic acid to produce a stable restorative material. This material was introduced in 1972 for use as restorative materials. These are still used widely foe the purpose
of restoration of anterior teeth throughout the world. This material bonds chemically to the tooth structure and also releases fluoride. Nowadays it is also been used to restore the low stress bearing areas of the oral cavity and in orthodontics treatment due to its luting properties. These are the restorative material of choice when it comes to restoration of deciduous tooth.

5. Some Patents on Tooth Restorations Are As Follows
   i. **Composite Temporary and Long-Term Provisional Crowns and Bridges:** In this process, the authors tell us about a temporary or long-term provisional crown including a shell having different walls to form a central cavity like structure to fit over a prepared tooth.
   ii. **Method for cosmetically improving and Altering the Appearance of Teeth:** In this process, the authors tell us about a method for changing the appearance of teeth to provide a esthetic color on the tooth which can be selectively removed.
   iii. **Porcelain Dental Restoration Method:** In this process, the authors tell us about an improved method of porcelain dental restoration to provide a strong, aesthetically pleasing restorations in different variety of contexts like inlays, onlays or overlays.
   iv. **Artificial Teeth:** In this process, the authors tell us about an artificial resembling a natural tooth to be placed in patients mouth to replace a missing tooth. These can be of different shape and size as per the natural color of the patient’s teeth.
   v. **Method for Cosmetic Restoration of Anterior Teeth:** In this process, the authors tell us about a method for the cosmetic restoration of anterior teeth in which a glazed porcelain veneer is made for a patient's tooth to replace the missing tooth.

6. Conclusion
   Many newer restorative materials are available to us now but still older materials have not lost their importance in the field of dentistry. Such materials are not only cheaper but also readily available to us anywhere and on top of all are esthetic and biocompatible. There is still a long time before which these materials would become outdated and would be replaced by some more advanced restorative materials.

References