Biological Restoration of Primary Anterior Teeth: A Case Report

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Abstract: Restoration of primary maxillary incisors, severely destroyed by trauma or caries is a commonly faced problem in a Pediatric dental clinic. Most cases are observed in children with early childhood caries. In the past, the only option would have been to extract the affected teeth and replace them with prosthetic substitutes. However, the availability of natural crowns and roots would allow the use of biologic restorations to preserve the integrity of patient's natural dentition as presented in this case report.

Key words: Biologic restoration, Early childhood caries

INTRODUCTION
In today's world, even after development in field of preventive dentistry. Nursing bottle caries is still to be seen. Children who develop severe dental caries at an early age, as in nursing – bottle caries, present to dentist with one of the most perplexing situations in dentistry. Many dentists consider it hopeless to repair the damaged or even to explain how it could have happened at such an early age. In such cases, the crown is often in non-restorable condition. But, currently there are various treatment modalities available to treat such teeth for example omega loop post, strip crown, biological restoration. In this case report biological restoration was used as a treatment.

CASE REPORT
A 3year old female patient reported to the Department of Pedodontics and Preventive dentistry, Institute of dental sciences, Bareilly, with the chief complaint of decayed teeth along with pain in upper front region. On intra oral examination it was revealed that patient was suffering from early childhood caries (Picture 1). On taking history from from patient’s guardian it was revealed that patient had bottle feeding habit and was being bottle feed before sleep. On intra oral examination it was revealed that 51,52 and 62 were grossly decayed with involvement of pulp 53, 51 and 63 were present with dental caries. IOPA were taken (picture 2) and pulpectomy was planned with respect to 51,52,62. Restoration with respect to 61 and 53 and 63, Pulpectomy was done with respect to 51,52 and 62 (Picture 3). Crown of the tooth were non restorable. We planned to do biological restoration by using extracted deciduous teeth. The procedure was explained prior to patients guardian and there informed consent was taken. We took a stored extracted deciduous maxillary extracted central incisor and thoroughly washed it in H2O2 solution, then it was cleaned in 100% alcohol and subjected to autoclave sterilization. After sterilization the tooth was kept in UV Chamber. Post space was created with the straight bur using aerator at a slow speed obturating material was removed till 1/3rd of the root length. The root of the teeth was trimmed in the circumferential manner so as to give a conical shape just like post (Picture 4). Teeth was constantly checked inside the prepared canal for its adequate length and snugly fitting the canal. Post and canal were acid etch and bonding agent was applied post was cemented with the help of flowable composite. The natural crown was used and anatomical adjustment were made by applying composite resin. 61 was asymptomatic and was having soft caries which were removed and Gic restoration was done. Polystrip crown was given with respect to 61 (Picture 5).

DISCUSSION
Now a days in market various modalities of treatment option are available for proper restoration of grossly decayed primary anterior teeth until the permanent teeth erupts. The use of stainless steel orthodontic wire as an intracanal post has also been a simple and fast technique for reconstruction of primary anterior teeth. However, in most cases, the wire adaptation to the internal walls of the canal is not adequate, leading to detachment of the wire and restoration or Radicular fracture, especially in cases with excessive masticatory forces. Composite resin posts provide satisfactory esthetics but loss of retention owing to polymerization contraction could be a risk. The availability of natural crowns and roots would allow the use of biologic restorations to preserve the integrity of patient’s natural dentition. Erupted. The natural crowns offer esthetics as well as preservation of natural tooth colour. The enamel also has physiological wear and offer superficial smoothness and cervical adaptation compatible with those of surrounding teeth. Resin composite restorations do not present these advantages and can allow staining and plaque formation on their surfaces. Hence, biological restoration is better treatment option among all to restore the grossly decayed teeth. In the present case, the use of biologic restorations with the natural roots and crowns, resulted in clinical success as well as recovered function and esthetics. The biologic restoration is a promising alternative to prosthodontic restoration for primary teeth severely destroyed due to caries. Also, the technique eliminates high costs associated with other restorative techniques for deciduous anterior teeth. The adhesion provided among the “Biological Post,” the cementing agent, and the dental structure allows one to attain a sole biomechanical system (monoblock) with materials.
that are compatible among themselves. The use of posts in teeth with great compromise of the dental structure allows the occlusal forces that will place pressure on the tooth to be better distributed throughout the root. Although biological crowns return excellent esthetic and functional results to the fractured teeth (such as the smoothness and shine of the surface, anatomical contour, natural color, hardness, and resistance to wear), both the teeth and the posts require that the patient pay special attention to hygiene and dental care so as to avoid excessive pressure on the teeth, which could in turn cause fractures.10

CONCLUSION
Within the limitations, it seems that biological post core and crown offer excellent esthetic, functional advantages to achieve the morphofunctional restoration of extensively damaged primary anterior teeth.

REFERENCES
LIST OF PHOTOGRAPHS

Fig. 1: Introral view of grossly decayed anterior teeth

Fig. 2: Pre-operative IOPA

Fig. 3: Pulpectomy in 51, 52, 61

Fig. 4: Biological post prepared from deciduous maxillary central incisor teeth

Fig. 5: After final placement of post in 51 and polystrip crown in 61