

Happiness With New Smile After Composite Filling in The Fractured Teeth

Dyah Ayu Retnowulan, Istien Wardani, Annisa Listya Paramita, Yufita Fitriani, Yulie Emilda
Department of Pediatric, Faculty of Dentistry, Universitas Hang Tuah Surabaya

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ABSTRACT

Background: A Fractured front teeth have an impact on children's psychology. Treating the front teeth with good aesthetics restores happiness. Dentists will try to restore fractured front teeth at a low cost will help the patient and family. **Objective:** #11 pulp necrosis accompanied by Ellis class III fracture, positive percussion test, positive bite test, and grade I mobility. **Case:** A 12th years old boy, visited pediatric dentistry clinic dr. Ramelan Naval Hospital Surabaya with his mother complaining that her child fell and broke his front teeth. And her child didn't want to go to school because not confident. **Case management:** Root Canal Treatment was restored with a composite using a palatal index with a layering technique supported by his insurance. **Conclusion:** The aesthetics of the teeth, especially the anterior teeth, is very important for the patient's confidence because they are visible when smiling, optimal support for children in the process of growth and development both physically and psychologically and selection of the type of treatment needs to consider the patient's finances while maintaining good quality.

Keywords: A fracture front teeth, Root Canal Treatment and Composite, the patient's finances, self-confident

Correspondence: Dyah Ayu Retnowulan, Department of Pediatric, Faculty of Dentistry, Universitas Hang Tuah, Jl. Arief rahman Hakim no 150 Surabaya, (031) 5912191, deeyahaer@gmail.com

INTRODUCTION

Dental trauma is a case that has a relatively high prevalence rate. The International Association for Dental Traumatology reports that children with frequent trauma are between the ages of 8 and 12 years. Permanent dentitions involve the anterior teeth, especially the maxillary central incisors are most of the dental injury.^{1,2,3}

In the case of class III fractured teeth with non-vital pulp, one of the treatments is root canal treatment.^{3,4} Wax-up making to be a resin restoration guide composite.⁵ Composite restoration of teeth anterior with free-hand layering technique aims to produce good color gradation and transparency.^{6,7,8} Many advantages of using composite resin for anterior tooth restoration such as short working time, the restorative color of natural teeth, and more affordable cost.^{8,9} The choice of treatment for this patient is adjusted to the condition of the patient who does not have costs for restorations that are not supported by insurance.

CASE

A 12th years old boy comes to the Pediatric Dentistry Clinic dr. Ramelan Naval Hospital Surabaya with his mother. His mother said that her son fell off the bike and broke his tooth one month ago. He was taken to the dentist at the primary health care provider and then referred to the RSAL for further treatment. Patients are treated with insurance. From the anamnesis, the patient has been treated several times at the primary health care provider and still complains of a toothache. His tooth feels mobility and painful when used to eat. After breaking his tooth, he did not want to play with his friends and did not want to recite the Koran, and went to school while wearing a mask. His mother and he wanted the tooth to be painless and restored so did not look broken and did not want to be extracted.

Clinical examination; extra-oral: no abnormalities, intra-oral: right central incisor

tooth (#11) Class III Ellis fracture, non-vital, positive percussion test, positive bite test, and grade I mobility. Gingivitis with moderate oral hygiene, periapical photo shows that the apex is completely closed and there is a slight radiolucent in the apical area of the tooth. The diagnosis of the tooth was pulp #11 pulp necrosis accompanied by Ellis class III fracture.

CASE MANAGEMENT

At the initial visit, introduce the patient and parents, followed by an initial examination in the form of anamnesis, extra and intra-oral clinical examination, and periapical radiographs were performed. The diagnosis of the tooth was pulp #11 pulp necrosis accompanied by Ellis class III fracture.

The treatment plan was root canal treatment and composite restoration. Root canal treatment is treatment by taking all necrotic pulp tissue. The goal of root canal treatment is to keep the nonvital teeth in the dental arch for as long as possible in the dental arch oral cavity by cleaning and disinfecting the respiratory system roots thereby reducing the appearance of bacteria. Root canal treatment consists of three main stages, namely: Biomechanical preparation of root canals or cleaning and shaping, root canal sterilization, and root canal obturation. One of the stages in cleaning and shaping which is important is the root canal irrigation stage.⁸ Root canal treatment with a single cone technique is carried out through a multi-visit. After that, a restoration composite was carried out with layering techniques, and a palatal index was used for guidance because supported by insurance.

First visit for pain relief and mobility of teeth. At #11 open a temporary restoration, irrigation with NaOCl, and periapical foto (fig. 1) to measure the length of the tooth to determine the working length and the result was 18,5 mm. After that preparation by Protaper until F1, irrigation was carried out at each change of Protaper. Trial foto (fig. 1) after preparation finish, sterilization, and a temporary restoration.

The patient was scheduled for a visit 1 week later. Second visit, from the anamnesis the patient still felt a little pain; extra-oral: no abnormalities, intra-oral: temporary restoration good, positive percussion test, positive bite test. Treatment at #11: open a temporary restoration, irrigation, sterilization, temporary restoration again and made palatal index by using molding spoon upper jaw and lower jaw with alginate fast setting (fig 3.). The patient was scheduled for a visit 1 week later.

At the dental laboratorium, the shape of the jaw (negative mold) was then cast using hard gypsum (fig. 3). On positive mold made a crown with red wax (fig 4). After that, the positive mold with the red wax crown was molded with impression material to make a palatal index (fig 5).

Next visit was done more than 2 weeks. The patient fell with no pain. Clinical examination; Extra-Oral: no abnormalities, intra-oral: temporary restoration open, negative percussion test, negative bite test, and cotton sterilization wet and dirty, so the treatment, irrigation, sterilization, and temporary restoration.

Next Visit in one week: #11 obturation was carried out after anamnesis there was no pain, negative percussion, negative bite test, and the cotton's sterilization did not have exudate and did not smell of gangrene. Obturation with Guttap point (fig. 1), obturation foto (fig. 1), and covered with glass ionomer cement.

The patient was scheduled for a visit two weeks later and then the patient came for anamnesis, patient feel no pain. and clinical examination, negative percussion, negative bite test, and glass ionomer cement good. A Composite restoration was made layering technic with palatal index. The patient was very happy and felt confident again.



Fig 1. Periapikal Foto, before, trial foto, and after treatment.

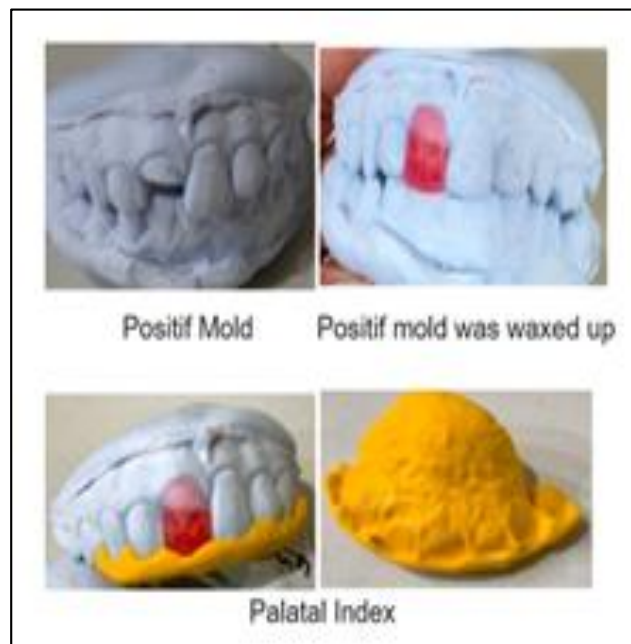


Fig 2. Palatal Index



Fig 3. Digital Foto, before and after treatment



Fig 4. My Happiness with New Teeth

DISCUSSION

Patients with fracture teeth class III Ellis cannot eat because feel pain and shame. Pain and infection in tooth #11 were treated with Root

Canal Treatment. The goals of root canal treatment (RCT) are to maintain tooth function, treat pulpal disorders, and prevent and treat periapical tissue disease.

The results of endodontic treatment were evaluated using clinical and radiological examinations. From clinical findings, there were no signs or symptoms of infection. And radiological examination shows hermetic root canal filling. After RCT, the teeth were restored with a composite using a palatal index with a layering technique that was supported by his insurance. The cost aspect is the last thing to be considered in planning treatment. But it still makes a consideration for alternatives in treatment.

In this case, the patient stated that he was unable to pay beyond insurance coverage. so that the alternative treatment with composite layering. The use of this palatal index can produce good palatal anatomy and can guide dental restorations like real teeth. Composite restoration with layering technique is highly recommended to be produced good color gradation and transparency.¹⁰

Aesthetics cannot be separated from social life. The aesthetics of the anterior teeth will be seen when we talk and smile. There is a positive relationship between body image dan self-confidence.¹¹ The patient feels happy after looking in the mirror and knowing that his teeth are intact again. His mother is happy too and hopes that her child will confident again in his socializing. Anterior teeth reconstruction after traumatic injury provides functional masticatory efficiency and aesthetic increased self-esteem for the child.¹²

CONCLUSION

The aesthetics of the teeth, especially the anterior teeth, is very important for the patient's confidence because they are visible when smiling. Optimal support for children in the process of growth and development both physically and psychologically. The selection of



the type of treatment needs to consider the patient's finances while maintaining good quality

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