

TREATMENT OF PATIENTS AMELOGENESIS IMPERFECTA WITH FULL VENEER METAL PORCELAIN CROWN (CASE REPORT)

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Abstract

Background: complete rehabilitation in patients with amelogenesis imperfecta with decreased occlusal vertical dimension due to structural abnormalities of the email is a challenge to built its restoration. The treatment plan and the selection of appropriate materials are expected to improve the situation. Restoration options can vary among other composite fillings or crowns. This case report describes the 25-year-old female patient with amelogenesis imperfecta whole tooth and rehabilitated using full metal porcelain crown. In these patients there are abnormalities of teeth brown and yellow spots as well as family background makes this a amelogenesis imperfecta. Restoration wearing full metal imitation porcelain crowns because of the damage that occurs over the whole tooth and with the consideration that retention, resistance, and aesthetic required in these patients. Treatment is done gradually adjusted regio teeth. Tooth preparation is done according to the needs aesthetic and gradually raising the vertical dimension of the patient. At the time of the first control patients unfamiliar with the crown of her 9th and felt strange when she bite. The second and third control no complaints from patients. **Conclusions:** Patients with amelogenesis imperfecta can be rehabilitated with full metal porcelain crown. Restoration achieve a satisfactory outcome for the patient is satisfied with her performance today and masticatory function can be achieved to the fullest.

Keywords: amelogenesis imperfecta, full imitation metal porcelain crown, occlusal vertical dimension

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INTRODUCTION

Amelogenesis imperfecta (AI) is a disorder that results in damage to email. The level of damage varies from several teeth until the whole tooth, both the primary and permanent teeth, and these abnormalities cause the quantity and quality of the email variety. AI can be found as a pattern of hereditary and is generally divided into four types based on clinical and radiological namely: 1) hypoplastic where the email looks good but is reduced in quantity, 2) Hipomaturation where the final process of mineralization is not perfect, 3) Hipocalsification where the email has been formed but lacking mineralization, 4) Hipomaturation-hypoplastic a combination of circumstances no 1 and 2. The most common problems associated with the patient complained of esthetics, dentine sensitivity and irritation khemis and mechanical, as well as a decrease in the vertical dimension. AI also often broadly defined as progressive root resorption and dental crowns, pulp calcification, taurodontism, root malformations, and also not the eruption of teeth.¹

AI is a hereditary disorder that causes damage to the email. Clinically visible characteristics is the presence of a disorder or abnormality.^{2,3} This may occur during the period of primary teeth and permanent teeth. AI prevalence between 1: 700-1: 14000² AI is caused by a gene mutation causing autosomal dominant and recessive transmission. There are also patients with no family history but there is this mutation.³ Prosthodontic treatment needs of these patients varies greatly from preventative care such as maintaining oral hygiene instruction, until further dental restorations such as composite fillings, porcelain veneers, porcelain or metal

crowns and all porcelain crowns. Restoration in some patients a little difficult but very important to try to achieve maximum performance and function. Profile should be considered in conjunction with the patient's socioeconomic status, age, and type of AI. In some cases it is necessary to do advanced research in the long term so as to get the maximum restoration. In some cases need to be tried with a variety of available treatments to achieve optimal results.

FULL VENEER CROWN ⁴

Restoration is made to cover the entire surface of the tooth crown. Practitioners believe that this restoration is more beneficial in terms of retention than the partial restoration. Selection of restoration is based on how much damage occurred and retention needs, resistance and aesthetic needs. Metal porcelain or porcelain all can be custom appearance.

Preparation of anterior teeth labial parts do with flat end tapered diamond bur depth of 1-2 mm and adapted to the inclination of the teeth. Incisal surfaces of anterior teeth also prepared with flat end tapered diamond bur. Part palatal with small diamond wheel bur, not too much done taking, because it can affect retention. The proximal portion of long thin diamond bur. Preparation of the final (rounded corners) with chamfer on the palatal and labial parts with radial fissure bur.

Preparation section posterior occlusal with round end tapered diamond bur along with functional cusp bevel. Part buccal with flat end tapered diamond bur. Reduction of the proximal portion with thin diamond short bur. Preparation of the final (rounded corners) with chamfer on the palatal and labial wear parts radial fissure bur

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CASE

A 25-year old female patient came to the Hospital with the intent to improve the appearance and her mastication. Patients are embarrassed by their teeth were brown and often ache . Patients say that as a child was often sick and was given medication by a doctor . Dad patients also experienced the same thing with the state of her teeth . In the intra-oral examination : vitality (+) , sounding (+) , and percussion (-) . On the first visit the patient directly performed radiologically as shown in Figure 1. The state of intra oral patients can be seen in Figure 2.



Figure. 1
Radiological state of the patient's mouth



Figure. 2 Figure .3
Figure 2 and 3 : The state of the patient's intra oral

CASE MANAGEMENT

On the first visit made doing impression with alginate and casting is done to study models and temporary crowns. Model studies were analyzed in order to make a metal porcelain crowns. Patients given informed consent about the actions that will done. Stage work to be done is to create a full crown remained gradual per tooth region, while increasing the vertical dimension of the patient. It is depend on the patient a limited time as a student . Patients are requested to do maintenance on the upper anterior teeth because its appearance is compromised, then the first step would be making a full metal porcelain crown in the six maxillary anterior teeth. Model studies were sent to a laboratory to make temporary crown.

On the second visit, do preparation on maxillary anterior region. Patients were prepared on the dental unit and do preparation as in the description above. Previous temporary crown has been obtained from the laboratory. After completion of the preparation is carried impression

wear rubber base and sent to the laboratory. Patients go home wearing temporary crown while being cemented with temporary cement .

The third visit, the temporary crown removed with crown removal, and full metal porcelain crown cemented with GIC cement as in Figure 4. The patient is asked to come back two weeks later.



Figure. 4
Patients with metal porcelain crown anterior maxilla

On the fourth visit, the patient was satisfied with his performance and is willing to continue the treatment of his teeth. Dimensional measurements of physiological do wear facial methods of measurement, specify any two points, on the chin and nose and then the patient is asked to swallow in a physiological rest position. Calliper is used to measure the distance of the two points and the result was reached 59 mm. Patients were asked centric occlusion is then measured and obtained 52 mm. The difference is about 7 mm it will be minus 3 mm, to raise the height of bite patients. Bite registration is done wearing heavy rubber base body, wherein the base and mixed until a homogeneous catalyst, untwisted shaped coil, placed above the occlusal surface. Patients were asked occlusion and measured using calipers to measure reached 54 mm. Prepare preparation for the region molars top and bottom, right and left regions. Preparation was done according the description above and do impression. The printed along with the bite registration is sent to a laboratory to make a full crown. Patients go home wearing a temporary crown while in the region of molar teeth.

On the fifth visit, temporary crown removed and a full metal porcelain crowns inserted on all teeth molar. Sixth visit, do the same thing in the anterior region below, where do the preparation, temporary crown fitted afterward, and the results sent to the laboratory preparation. Seventh visit, full metal porcelain crown mandibular anterior installed. (See figure 5)



Figure. 5
Model studies premolar

The same is done on the eighth patient visits, which is done in the region of premolars preparation, impressed with a rubber base, was sent to the laboratory. Patients wear a temporary crown while at home. Visits to nine , full metal porcelain crown premolar mounted in the patient's mouth . Control patients can do depends a great time there . The first control is done one week thereafter . At the time of the first control patients unfamiliar with the crown of her teeth and felt strange when they bite . Checking of wear articulating paper and color are thicker in the region of the premolars that do grinding in the region . The second and third control carried out a month later , the results are no complaints from patients .



Figure. 6
Full Veneers Metal Porcelain crowns in patients

DISCUSSION

Prosthetic rehabilitation in patients with AI on yore include revocation or manufacture a full denture. Prevention efforts are often contradictory in terms of the patient's psychological. Nowadays there are a variety of materials and methods that can be used to make a number of choices for practitioners. Treatment of patients with AI involves many factors such as age, socioeconomic status, type and damage to AI, oral manifestations and the aesthetic and functional needs teeth.³

Typically AI patients had abnormal anterior open bite, damage severe caries, impacted teeth, as well as a combination of everything.¹ In these patients there is no such abnormalities except the condition of the teeth brown and yellow spots on the tooth structure as well as the background of family lineage.

Some patients only require only oral hygiene care while others need care of his teeth. Practitioners should consider the request of the patient to his performance, the ⁶ strength of the restoration, protection against the rest of the teeth and also the livelihood restoration program. Treatment of AI may include the manufacture of adhesive restoration technique, over denture, full metal porcelain crowns, dentures bridges, full porcelain crowns, or inlay or onlay restorations.^{2,3} These patients wear full metal porcelain crown as used by Mete JJ et al. These crown full use because of the damage that occurs over the whole tooth and with the consideration that retention, resistance, and aesthetic required in these patients. It is as suggested Shillingburg to manufacture a full crown.

Patient's need for his performance filled with care prior to the six maxillary anterior teeth. The accuracy of the edge of the marginal gingiva and crown color accuracy in patient satisfaction and can increase self-confidence. One advantage of this treatment is to improve the patient's psychological factors as a result of the affected tooth AI.^{1,5} This causes the patient to continue treatment at all her teeth in order to perform better.

Patients with AI clearly shows a decrease in the vertical dimension that requires thorough care. This happens because the emails structure and open dentin. This decrease was due to the loss of the enamel surface that caused posterior occlusal vertical dimension down. This effect can be reduced by raising the bite in the posterior region. In these patients do bite elevation of 3 mm the same as that done by Rajesh P et al.⁶

CONCLUSION

This case report is made in patients with amelogenesis imperfecta using full metal porcelain crown. Restoration achieve a satisfactory outcome for the patient is satisfied with her performance today and masticatory function can be achieved to the fullest .

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