

OPERATIVE DENTISTRY : AN ALTERNATIVE TO ORTHODONTICS

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Clinical relevance

Conservative bridge of resin veneers and pontic bonded by the composite tetric ceram is a satisfactory solution to close a diastema located in an incisor area.

INTRODUCTION

Ivory Coast is a developing country in pure economic terms and it is a developing country also in terms of dental care and dental costs, this is crucial in order to understand the objectives of this clinical case study.

There are about 360 dentists in Ivory Coast for a population of 15 millions while Chicago has at least 3,000 dentists for about the same population size. There are only 7 orthodontists and 5 speech therapists in Ivory Coast despite a crying need for these specialists. It follows that the services of these specialists are very expensive and unaffordable to the average man and woman who very often lack medical insurance or medical coverage. Under the circumstances, it may be necessary to propose alternative solutions based in Operative Dentistry.

Consequently, the objective of this paper is to describe a clinical case that highlights the role of Operative Dentistry in the treatment of dento-alveolar Disproportion in a very specific social context.

DESCRIPTION OF THE CLINICAL CASE

Psychological aspect

Mr. X was 19 years old and came to us for consultation over some aesthetic preoccupation. According to his own words, he was ill at ease when he saw himself in the mirror, he felt embarrassed by the empty space between the front lower teeth. He has expressed that the diastema causes him embarrassment when he was in the company of people, so that he just kept his face in a downward position to avoid being looked at.

He has been referred to us by an Orthodontist who saw him in the course of a study on maxillary types in Ivory Coast. This patient and another one were just about the only 2 persons out of 100 to have visited a dentist as they have been advised to.

As a reward, the Orthodontist performed a clinical examination and initiated an orthodontic treatment to close out the space. However there was a recurrence of the diastema. Because of the high cost of the orthodontic treatment that included the glossectomy, the speech re-education and orthodontics splints, for a patient of modest means, the specialist referred him to us. If the diastema which prompted the consultation had been «created» between the 2 upper central incisors, it would have meant a very highly token of handsomeness in the Akan ethnic group to which the patient belongs. Unfortunately, this diastema was lower and as wide as the lower right first incisor in its mesio-distal diameter. Psychologically the patient was in good emotional condition and was highly motivated to cooperate in the treatment of his oral cavity. Interestingly, our patient's ambition was to become an air plane pilot, a profession where the appearance of physical traits sometimes does matter.

Results of clinical examination

The procedure was followed at a general and dental level including X-ray and impression of the teeth.

The clinical examination revealed :

- The absence of the first mandibular molars which were extracted in 1992. The lower right first molar, the 19 was decayed and suffered from acute pulpitis. The 30 was also decayed and in order to prevent irreversible pulpitis' symptoms his mother had it extracted (according to the belief that the pain is eliminated by extracting the tooth).
- The absence of active decay ;
- The left maxillary deviation ;
- An atypical position of the tongue while swallowing,
- Few amalgam fillings (class 1 on 2 and 15) show the interest in having his teeth restored ;
- X-rays and impression of the teeth have been performed.

SOLUTIONS

Therapeutic choice

With respect to these clinical observations, we suggested

to the patient to consider a conservative bridge as an alternative to the orthodontic treatment which include speech re-education, glossectomy and orthodontic splints approximately estimated at 800 dollars.

Regarding the acceptable oral hygiene (an appropriate tooth brushing method and dental floss use were taught) the good shape of the few restored teeth and the limited financial resources, we decided to perform 2 lingual acrylic veneers interlocked with the pontic which will be bonded to the teeth by the composite tetric ceram. This conservative bridge's lab fee which was approximately 40 dollars was charged to the patient at his convenience. Our clinical behaviour was also to set a check up after 6 months and then every year during 3 years to evaluate the bridge, the pulp vitality and the periodont .

Restorative procedure

The preparation of the inferior left lateral incisor and the inferior left central incisor were performed with shoulder and finishing diamond burs. To allow the bounding the teeth are prepared with a reduction of 0.5mm starting 0.5mm below the incisal face and 0.2mm upper the gingiva with mesial and distal retention form. An additional hole of 0.2mm depth was performed at the cingulum. After the impression of the prepared teeth is taken, their surfaces were etched for 1 minute, rinsed for a minute too, dried up for 10 seconds, covered by a layer of adhesive then after polymerization a layer of composite tetric ceram was placed. The conservative bridge was then set and the curing performed for 1 minute at each side of each supportive tooth and through the veneer retainers.

This type of conservative bridge would have been considered as a provisional solution if the bounding were not performed with a composite which has a good adhesive property. The aesthetic objective was accomplished, the pulp vitality of the abutments was preserved and our patient was satisfied.

Follow up

We saw the patient 6 months later showing a good wear of the bridge and a good dental health, the periodont was sound and the teeth were sound and alive according the percussion, radiography and to the cold test, we performed.

One year later we noticed tartar located at the third lower part of the lingual face we performed some scaling and covered the bridge with a scotch bond 2 adhesive for 20 seconds followed by 20 seconds of polymerization in order to prevent the deterioration of it wear.

CONCLUSION

Operative dentistry is a fair alternative for orthodontic treatment. The case presented shows that operative dentistry helped in fulfilling the patient's immediate concern that is , solving an aesthetic problem in a very cheap manner, moneywise, in a developing and impoverished context. The everlastingness of the conservative bridge performed is secured by the bounding.

Acknowledgements

Our thanks to Dr Clifford. STURDEVANT and Dr Richard McCOY for their stimulating comments.

Figure 1 : Diasthema between 24 and 25



Figure 2 : Teeth prepared to receive conservative bridge



Figure 3 : Resin veneers and pontic in place



Operative dentistry...

SUMMARY

The purpose of this paper is to describe a clinical case, which highlights the role of Operative Dentistry in the treatment of Dento-alveolar Disproportion in an impoverished tropical environment.

The patient had a diastema located between tooth 24 and tooth 25 due to an atypical position of his tongue while swallowing. The patient had been referred to because he could not afford Orthodontics.

We suggested a conservative bridge compounded of 2 resin veneers and pontic bounded by the composite tetric ceram. The 0.5 mm teeth reduction concern lingual and proximal faces with retention form, starting at 0.3 mm from the incisal edge to 0.5 mm from the gingiva was performed with diamond burs (Shoulder and finishing).

The result was satisfactory and leads us to conclude that Operative Dentistry is a good alternative to Orthodontics in a very specific social context.

RESUME

L'objectif de cet article de décrire un cas clinique révélant le rôle de l'Odontologie

Restauratrice dans le traitement des dysharmonies dento-dentaires dans un milieu tropical économiquement pauvre.

Le patient avait un diastème entre la 32 et la 33, causé par une position atypique de la langue à la déglutition. Ce dernier avait été recommandé parce qu'il ne pouvait pas supporter les frais d'une prise en charge orthodontique.

Nous avons proposé un bridge conservateur en résine composée de 2 facettes linguales solidarisées entre elles par un bridge, collées à la dent par le tetric ceram, composite hybride contenant des verres ionomères.

Le résultat satisfaisant nous a conduit à conclure que l'odontologie conservatrice est une bonne alternative à l'orthodontie dans un contexte très spécifique.

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