# ANTERIOR DENTAL ESTHETICS: AN INTERDISCIPLINARY CASE REPORT

*ESTÉTICA DENTAL ANTERIOR: RELATO DE CASO INTERDICISPLINAR*

Mario Cezar S OLIVEIRA[1]
Getúlio NOGUEIRA FILHO[2]
Viviane Maia B OLIVEIRA[3]
Alex Correia VIEIRA[4]
Nathália Bastos LATALISA[5]

Endereço para correspondência para: Mario Cezar S Oliveira
Alameda Murano, 63/703, Pituba, Salvador-BA / CEP: 41.830-610
Tel: (71) 9134-7995 / Fax: (71) 3261-6618
Email: mcezar1@hotmail.com

1-Mestre em Odontologia Clínica pela FBDC, Professor auxiliar da área de Prótese Dentária da Universidade Estadual de Feira de Santana.
2 - Doutor em Periodontia pela UNICAMP, Professor adjunto do Departamento de Periodontia da Fundação Bahiana para o Desenvolvimento das Ciências.
3 - Doutora em Prótese Dentária pela UNICAMP, Professora adjunta do Departamento de Prótese Dentária da Fundação Bahiana para o Desenvolvimento das Ciências.
4 - Mestre em Odontologia Clínica pela FBDC, Professor substituto de Dentística Restauradora da Universidade Federal da Bahia.
5 - Aluna do Curso de Odontologia da Fundação Bahiana para o Desenvolvimento das Ciências.

**RESUMO**

A estética dental tem sido um tópico bastante discutido em todas as áreas da odontologia. Quando uma transformação é planejada para os dentes do paciente, o clínico deve estabelecer um diagnóstico ordenado para que estabelecer um plano de tratamento adequado. Em determinadas situações a Dentística Restauradora necessita de outras especialidades para tratar alguns casos. Esse artigo descreve uma abordagem interdisciplinar para o tratamento estético dos seis dentes anteriores. Os autores realizaram procedimentos em duas especialidades diferentes: dentística restauradora e periodontia. Os procedimentos clínicos realizados em cada especialidade foram conduzidos para solucionar a deficiência estética na região anterior da paciente a fim de se obter melhores resultados.

**UNITERMOS:** Estética dentária; aumento de coroa clínica; nível gengival.

**ABSTRACT**

Dental esthetics has become a maintain topic among all disciplines in dentistry. When a makeover is planned for the patient's teeth, the clinician must have an ordered diagnostic approach that results in the proper treatment plan. With some cases, the restorative dentist cannot carry through the correction alone but may require the assistance of other dental disciplines. This article describes an interdisciplinary approach to the management of the six upper anterior teeth. The authors practice two different disciplines in dentistry: Cosmetic Dentistry, and periodontics. One such area has been the analysis of anterior dental esthetic problem requiring interdisciplinary correction to achieve the best result.

**UNITERMS:** Anterior dental esthetics; crown length; gingival levels.

## INTRODUCTION

Esthetics, which is derived from the Greek word for "perception", deals with beauty and the beautiful. It has two dimensions: objective and subjective(1). Objective (admirable) beauty is based on consideration of the object itself, implying that the object possesses properties that make it unmistakably praiseworthy. Subjective (enjoyable) beauty is a quality that is value-laden, relative to the tastes of the person contemplating it (1,2). Careful technique in dentistry should lend objective esthetics (admirable beauty) to the entire orofacial complex, involving unity, form, structure, balance, color, function, and display of the dentition(1). On the other hand, the creation of subjective beauty may enhance cosmetic value (1,2).

The esthetic value of a cosmetic restoration may be compromised by other factors contributing to the composition of a pleasing smile, such as amount of gingival display, gingival architecture, clinical crown dimensions, and tooth position (3,4,5).

Interdisciplinary therapy involves the combination of diagnostic, treatment planning, and therapeutic procedures. It is imperative that the team leader appropriately select a team of practitioners. The selection process can have a great impact on the overall treatment. Each provider on the team must have an optimal level of skill in his or her area of expertise to positively contribute to the overall result (6). In such instances, an interdisciplinary approach is necessary to evaluate, diagnose, and resolve esthetic problems using a combination of periodontic,and restorative treatments.

This article describes an interdisciplinary treatment philosophy designed for developing the foundation for optimal esthetics in restorative dentistry. A case report of a patient who presented short clinical crowns, excessive gingival display, and orthodontic malocclusion. The patient's esthetic demands were met through an interdisciplinary treatment approach consisting of periodontal crown lengthening with osseous resection, and direct composite restorations.

## CLINICAL REPORT

A 21-year-old white woman who was self-conscious about tooth appearance and "gummy smile" was initially seen at the Graduate Periodontics clinic of the FBDC with the chief complaint of "desire to improve dental esthetics". Her medical history was noncontributory without contraindications for dental treatment. Clinical examination of the patient revealed functional Angle Class I dental relationships and distribution of the maxillary anterior teeth was irregular. On smiling, there were 5 mm of maxillary gingival display. Oral hygiene and periodontal health were within normal limits (Fig. 1).

Diagnoses included diastemata, short clinical crowns and excessive gingival display. The patient was not interested in pursuing orthodontic therapy to correct her malocclusion. Because of the range of conditions that had to be addressed for optimal esthetic results, an interdisciplinary approach was followed. The proposed treatment was crown lengthening surgery enamel reduction and the esthetic direct composite restorations.

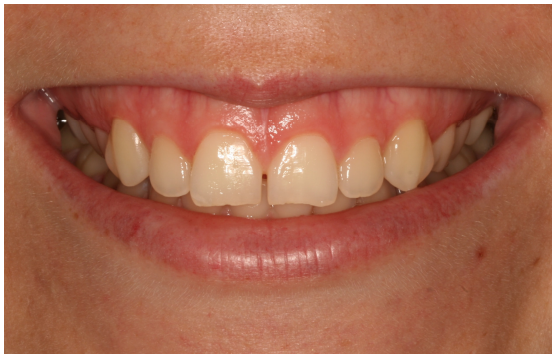


**Fig. 1**, Initial presentation, frontal view. Note the diastemata, short clinical crowns and excessive gingival display.

Periodontal surgery was performed from right to left canine in the maxilla. Inverse bevel, submarginal incisions were made (Fig. 2). A facial full thickness flap with elevation shy of the mucogingival junction was made from right to left canine (Fig. 3,4). The amount of facial alveolar bone to be removed was determined by the need to have a 3 mm distance between the bone crest and the new gingival margins-dentogingival complex (7) or biologic width plus 1 mm for sulcus depth (8). Flaps were replaced with simple, interrupted sutures (Fig. 5,6). Postoperative healing was uneventful, and soft tissue levels remained stable throughout the healing and restorative phases.

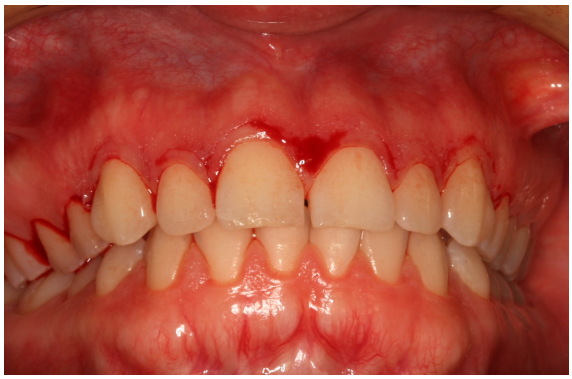
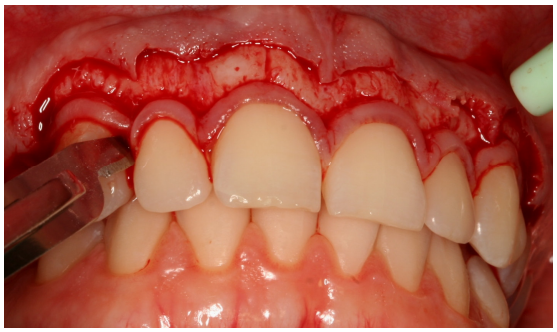


**Fig.2** Incision (flap) design. Note amount of tissue excision required to achieve desired crown length.

Two months after surgery, the patient was recalled. To establish optimal esthetics, composite restorations and enamel reduction were made to optimize contacts, contours and esthetics (fig. 7,8,9). Final treatment outcomes in terms of function and

esthetics (Fig. 10) satisfied the expectations of both the patient and the interdisciplinary group.



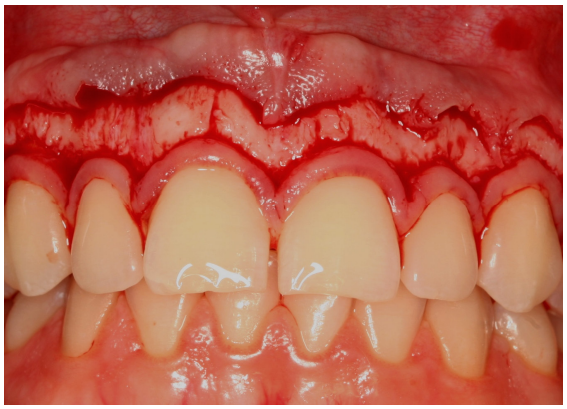
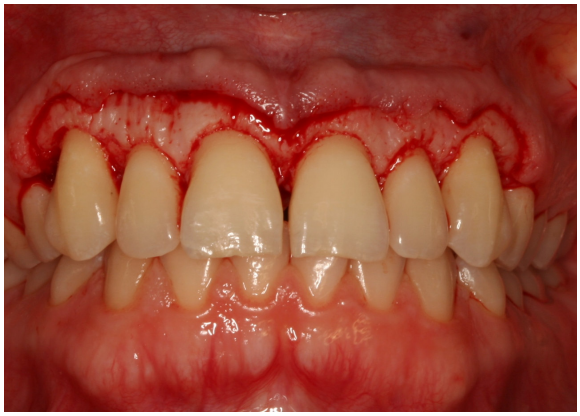


**Fig.3,4** Flap elevation.



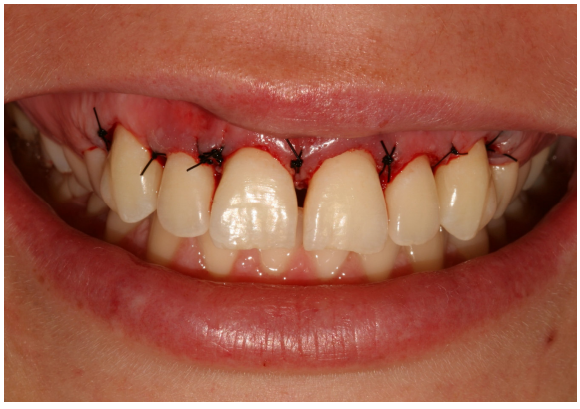
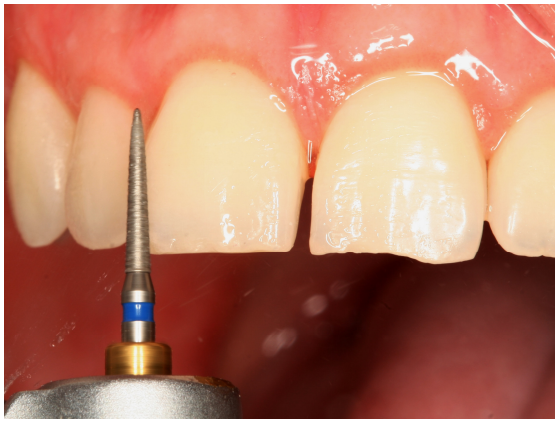
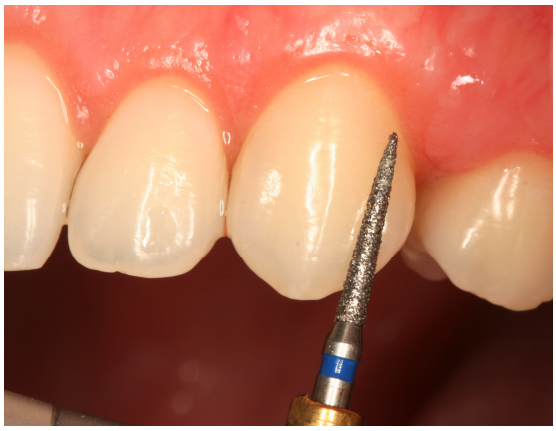


**Fig. 5,6** Completed crown lengthening surgery and suture.





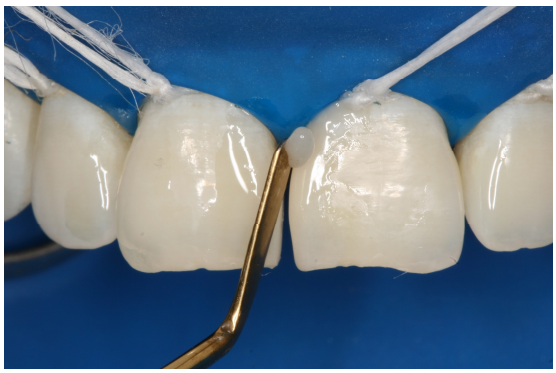


**Fig 7,8,9** Enamel reduction and composite restorations to optimize contacts, contours and esthetics.

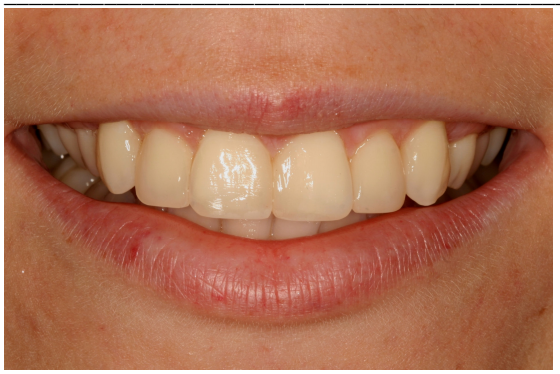


**Fig. 10** Final result.

## DISCUSSION

This article outlines a comprehensive interdisciplinary treatment philosophy designed to enhance and improve a patient's anterior esthetics. The management of an anterior excessive gingival display requires adequate treatment planning. When this clinical situation is associated with teeth not aligned properly on the dental arch a multidisciplinary planning approach, including orthodontics, periodontics and restorative dentistry has an important role in the final outcome of the treatment (9).

A common mistake that many dentists make is initially focusing on the teeth without regard to the surrounding soft tissue frame (10). The treatment planning evaluates the midline, incisal positions, gingival display and contours, interproximal papillary height and tooth proportions. Our first choice for treatment was a combination of orthodontic therapy and esthetic crown lengthening surgery. The patient, however, opted for a nonorthodontic approach, that was supported by recent clinical observations which confirm the stability of the adhesive materials in relation to their shape and color and their ability not to harm the gingiva (11,12). The patient should be aware that the texture of the restorative material will switch with time, and that the restorations will require replacement sporadically.

## CONCLUSION

The presented clinical case demonstrate that enamel reduction and direct composite restorations after periodontal surgical procedure are effective for esthetic reconstruction of the upper anterior teeth.

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