

Creating esthetic smiles with Omnicroma : A Case Series

Dr. M. B. Wavdhane¹, Dr. Pradnya V. Bansode², Dr. Seema D. Pathak³,
Dr. Janhavi Swami⁴

¹(Associate Professor, Department of Conservative Dentistry and Endodontics, GDC and Hospital, Aurangabad/MUHS, India)

²(Head of Department, Professor, Department of Conservative Dentistry and Endodontics, GDC and Hospital, Aurangabad/MUHS, India)

³(Professor, Department of Conservative Dentistry and Endodontics, GDC and Hospital, Aurangabad/MUHS, India)

⁴(MDS Student, Department of Conservative Dentistry and Endodontics, GDC and Hospital, Aurangabad/MUHS, India)

Abstract:

Esthetic smile play an important role in day to day life of patient. Any deformity in anterior teeth creates hindrance in social acceptance. Hence the main aim becomes to restore the deformity with apt color and shade matching with adjacent natural teeth. Tokuyama dental has introduced a new product, Omnicroma in market with extensive color matching ability. Omnicroma utilizes "Smart Chromatic Technology" by which it has ability to pick up color from surrounding while traditional composite take aid of pigment and dye. In this article esthetic rehabilitation of deformity in anterior teeth with Omnicroma is presented.

Key Word: esthetic, shade, Omnicroma, colour

Date of Submission: 15-11-2022

Date of Acceptance: 01-12-2022

I. Introduction

The modern culture increasingly emphasizes the importance of physical appearance. As a result, a young and alluring smile is considered a major advantage for professional and social attainment.¹ This rationally leads esthetic and adhesive dentistry in spotlight.¹ Thus, composite resins now occupy a foremost position among restorative materials because they offer excellent esthetics and acceptable perpetuity with a much little cost compared to ceramic restorations for the treatment of anterior teeth.¹ Also, composite restorations permit for minimal preparation to provide the replacement of the decayed or missing tissues.^{2,3}

Teeth are composed of a number of colors and individual tooth color also varies from the gingival margin to the incisal edge.⁴ Dentin gives the basic color to the tooth. This color is not completely deduced by the observer, as the enamel regulates the chroma and the value of the hue according to its greater or less thickness. As composite are used by free hand technique, shade matching becomes of outmost importance. However, the countless shade matching concepts that manufacturers use to make their materials can be difficult for clinicians and may prevent the correct application of shade of restoration.^{5,7}

OMNICHROMA is a structurally colored universal composite with a single hue designed for use with most direct restorative clinical cases.⁵ Its extensive color matching capability banishes the need for a shade selecting method and simplifies composite inventory, granting clinicians to rescue chair time, waste of undesirable composite shades, and reliance on shade-matching techniques.^{3,6} Thus providing swift and effortless approach for creating appealing and functionally aesthetic restorations.⁸ This case series represents three anterior rehabilitation cases restored with Omnicroma.

II. Case Series

Case report 1

A 36 year old patient with chief complaint of ragged upper front tooth reported to the Department of Conservative Dentistry and Endodontics and desired to get the teeth restored. Patient gave history of fall 3 months back. On clinical examination Ellis class II fracture was seen with 11 and 21 involving only enamel and dentin. Patient gave history of slight sensitivity with same teeth on consumption of cold water.

Surrounding hard and soft tissues were normal. Patient did not have pain, teeth were non tender on percussion. Electric pulp testing of fractured teeth gave normal response as that of adjacent teeth. Patient had a

normal overjet and overbite. Based on these factors , esthetic build up with Omnicroma composite resin was decided and explained to patient.

Preoperative photographs are taken before starting the procedure. The area to be restored was cleaned and dried. After air drying theetchant (37% phosphoric acid) was applied for 15 second on concerned teeth. Then the etchant was removed using waterspray for 20 seconds and again dried. Then bonding agent was applied and slightly blownwith air and then cured for 20 seconds. As Omnicroma is material of choice there is no need of shade matching, so material Omnicroma wasapplied layer by layer (thickness of 1-2 mm)and cured for 30 seconds each time. After complete build up , finishing and polishing was done for esthetic concern and to resist plaque accumulation.



Preoperative clinical photograph with fractured 11 and 21



Etching with 37 %
Phosphoric Acid



Application of
bonding agent



Omnichroma
resin



Application of
Omnichroma
composite resin on
11



Post Operative clinical photograph

Case report 2

22 year old patient with complaint of fractured anterior teeth due to trauma visited to Department of Conservative Dentistry and Endodontics. On clinical examination it was Ellis class II fracture with 21. The case is treated in sammmanner as in case 1



Pre operative clinical photograph with fracture 21



Post operative results after Omnichroma build up 21 along with mamelon characterization

Case report 3

21 year old patient with complaint spacing between teeth visited to department of Conservative Dentistry and Endodontics. On clinical examination it was midline spacing between 11 and 21. The case was treated by free hand build up by Omnichroma.



Pre operative clinical photograph with midline diastema



Post operative clinical photograph after Omnichroma Build up

III. Discussion

In times of need of outmost esthetic importance, an appealing smile is considered a major advantage for professional and social achievement. Unaesthetic teeth not only affect appearance but also morale of patient.¹ Management of patients with high esthetic demands prove a challenging situation to clinician. Hence there is constant search of materials with high esthetic ability and along with simplicity to use such materials.⁵

In the treatment plan the initial option considered should be the most conservative one that will achieve all the desired objectives of both the patient as well as the dentist.⁴ Direct composite restoration technique is minimally invasive, economical and successful in repairing tooth fracture with excellent longevity in carefully selected cases. But the process of shade selection proves enough cumbersome. As demand for better esthetics increases technology for dental materials evolves moving towards single shade composite Omnichroma.⁵

OMNICHROMA, according to the company, uses "smart chromatic technology" to capture the structural colour of its environment, whereas traditional composites require dyes or pigments. This is accomplished through the size of its filler particles. OMNICHROMA is a composite that offers extensive spectrum matching in an additive colour mixing system by providing red-to-yellow structural colour similar to actual teeth.⁵

As previously said, Omnichroma generates structural colour (smart chromatic) and covers all VITA traditional shades. Structural colour is expressed solely through the physical qualities of light, not through pigments or dyes. This is accomplished by altering the morphology of the filler particles such that they reflect colour.⁵

IV. Conclusion

Because of its numerous advantages, the Omnicroma material is a good substitute for attractive restorative material and anterior tooth rehabilitation. It takes less time, adapts effectively to the tooth, and instantly takes the shade of neighbouring teeth, restoring normal tooth form and contour. Omnicroma is a good material to use for quick and effective results in anterior aesthetic areas.

References

- [1]. Didier Dietschi: Layering Concepts in Anterior Composite Restorations. *J Adhesive Dent* 2001;3:71-80
- [2]. Abdulgani Azzaldeen , Watted Nezar , Abu-Hussein Muhamad : Restoring Fractured Anterior Tooth Using Direct Composite Restoration: A Case Report , *Global Journal of Dental Sciences* Volume 1 Issue 1, January 2019.
- [3]. Mona I. Riada , Wael M. Gamal and Ahmad S. Morsy : Color matching of a single shade structurally colored universal resin composite with the surrounding hard dental tissues .*Egyptian dental journal*, Vol. 66, 2721:2727, October, 2020
- [4]. Mohamed MA, Afutu R, Tran D, Dunn K, Ghanem J, Perry R and Kugel G : Shade-Matching Capacity of Omnicroma in Anterior Restorations, *S. J Dental Sci* 2020, 5(2): 000247
- [5]. Omni Tech Report, Tokuyama
- [6]. Natalie Pereira Sanchez, John M. Powers, Rade D. Paravina : Instrumental and visual evaluation of the color adjustment potential of resin composites, *J Esthet Restor Dent*. 2019;31:465–470
- [7]. Bong-Joon Kim, Yong-Keun Lee : Influence of the shade designation on the color difference between the same shade-designated resin composites by the brand, *dental materials* 25 (2009) 1148–1154
- [8]. Rapsang Eliezer et al , Omnicroma: One Composite to Rule Them All, *SSRG International Journal of Medical Science (SSRG IJMS) – Volume 7 Issue 6 – June 2020*
- [9]. Abdulgani Azzaldeen , Abdulgani Mai , Abu-Hussein Muhamad, Fractured Anterior Tooth Using Direct Composite Restoration : A Case Report(*IOSR-JDMS*). , Volume 16, Issue 10 Ver. XIII (Oct. 2017)

Dr. M. B. Wavdhane, et. al. "Creating esthetic smiles with Omnicroma: A Case Series." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 21(11), 2022, pp. 01-04.