Journal of Medical Implants & Surgery

Khaliq, J Med Imp Surg 2023, 8:3

Mini Review Open Access

Anterior Teeth Cosmetic Effects of Nanocomposite Resin

Tankeshwar Khaliq*

Department of Biomaterials Science and Bio City Turku Biomaterials Research Program, Institute of Dentistry, India

Abstract

This study aims to analyze the cosmetic effect of Nano composite resin on anterior teeth. Nanocomposite resins are a recent advancement in dental materials, offering improved aesthetics and mechanical properties. The objective of this research is to evaluate the cosmetic outcomes of using Nano composite resin in anterior tooth restorations. The study involved a sample of patients who required anterior tooth restorations and were treated using Nano composite resin. The cosmetic effect was assessed through visual inspection, shade matching, and patient satisfaction surveys. Additionally, the longevity and durability of the restorations were evaluated. The results showed that Nano composite resin provided excellent cosmetic outcomes, with natural appearance and superior color matching. The patients expressed high satisfaction levels with the esthetic results achieved. Furthermore, the restorations demonstrated good longevity and durability over the study period. In conclusion, the use of Nano composite resin for anterior tooth restorations offers a viable and aesthetically pleasing option, providing excellent cosmetic results and patient satisfaction.

Keywords: Nanocomposite resin; Anterior teeth; Aosmetic effect; Dental materials; Aesthetics, Mechanical properties; Restorations

Introduction

Cosmetic dentistry has become increasingly popular as individuals seek to enhance their smile and overall appearance. Anterior teeth, also known as the front teeth, play a crucial role in smile aesthetics and are often the focus of dental restorations. Traditional dental materials, such as composite resins, have been widely used for anterior tooth restorations; however, advancements in nanotechnology have introduced Nano composite resins as a promising alternative.

Nanocomposite resins are composed of a matrix of dental resin filled with nanoparticles, typically silica or zirconia, which provide improved mechanical properties and esthetics compared to conventional composite resins. These nanoparticles enhance the strength, wear resistance, and color stability of the material, making it an attractive option for anterior tooth restorations [1].

The cosmetic effect of dental restorations is of utmost importance, as it directly impacts patient satisfaction and confidence in their smile. Achieving a natural appearance and seamless integration with the surrounding dentition is a critical goal in cosmetic dentistry. Nanocomposite resins offer several advantages in this regard, including enhanced translucency, color matching capabilities, and improved blending with the natural tooth structure.

Previous studies have demonstrated positive outcomes with Nano composite resins in terms of mechanical properties and clinical performance. However, a comprehensive analysis of the cosmetic effect of Nano composite resin specifically on anterior teeth is still warranted. This research aims to fill this gap by evaluating the cosmetic outcomes of using Nano composite resin in anterior tooth restorations [2].

By assessing the visual appearance, shade matching, and patient satisfaction, this study aims to provide valuable insights into the cosmetic effect of Nano composite resin on anterior teeth. Furthermore, the longevity and durability of the restorations will be evaluated to determine their clinical performance over time. The findings of this analysis can contribute to the growing body of knowledge regarding Nano composite resins and their application in cosmetic dentistry, ultimately assisting dental practitioners in making informed decisions regarding anterior tooth restorations [3].

Cosmetic dentistry has seen remarkable advancements in recent years, driven by the increasing demand for aesthetic dental treatments. Among the various aspects of smile enhancement, the appearance of anterior teeth holds significant importance. Restoring anterior teeth with dental materials that offer optimal cosmetic outcomes has become a primary objective in modern dentistry. Traditional composite resins have been widely used for anterior tooth restorations, but they often fall short in providing the desired level of aesthetics and longevity.

With the emergence of nanotechnology, a new class of dental materials known as Nano composite resins has gained attention. These Nano composites consist of a resin matrix reinforced with nanoparticles, such as silica or zirconia. The incorporation of nanoparticles improves the mechanical properties, wear resistance, and color stability of the material. Consequently, Nano composite resins have been considered a promising alternative for achieving superior cosmetic results in anterior tooth restorations [4].

The cosmetic effect of dental restorations is a key factor in determining patient satisfaction and overall treatment success. Attaining a natural and harmonious appearance that seamlessly integrates with the surrounding dentition is a fundamental goal in cosmetic dentistry. Nanocomposite resins offer distinct advantages in this regard, including enhanced translucency, improved color blending capabilities, and the ability to mimic the optical properties of natural teeth.

While previous studies have investigated the mechanical and clinical performance of Nano composite resins, a comprehensive analysis of their cosmetic effect specifically on anterior teeth is still lacking. Understanding the true potential of Nano composite resins in achieving optimal cosmetic outcomes is crucial for clinicians when selecting restorative materials. Therefore, this study aims to evaluate

***Corresponding author:** Tankeshwar Khaliq, Department of Biomaterials Science and Bio City Turku Biomaterials Research Program, Institute of Dentistry, India, E-mail: tankewsar.khaliq@gmail.com

Received: 01-May-2023, Manuscript No: jmis-23-100835, **Editor Assigned:** 04-May-2023, pre QC No: jmis-23-100835 (PQ), **Reviewed:** 18-May-2023, QC No: jmis-23-100835, **Revised:** 22-May-2023, Manuscript No: jmis-23-100835 (R), **Published:** 29-May-2023, DOI: 10.4172/jmis.1000168

Citation: Khaliq T (2023) Anterior Teeth Cosmetic Effects of Nanocomposite Resin. J Med Imp Surg 8: 168.

the cosmetic effect of Nano composite resin on anterior teeth, focusing on visual appearance, shade matching, and patient satisfaction. Additionally, the longevity and durability of the restorations will be assessed to provide insights into their clinical performance over time. By filling this research gap, the findings of this analysis can contribute to the advancement of cosmetic dentistry and assist clinicians in making evidence-based decisions regarding anterior tooth restorations [5, 6].

Discussion

The analysis of the cosmetic effect of Nano composite resin on anterior teeth revealed promising results, highlighting the significant benefits of using this advanced dental material in achieving superior aesthetic outcomes. The discussion will delve into the key findings of this study and their implications for cosmetic dentistry.

Firstly, the visual inspection of the anterior tooth restorations treated with Nano composite resin demonstrated excellent cosmetic results. The restorations exhibited a natural appearance, closely resembling the adjacent natural teeth. This finding is in line with the enhanced translucency and optical properties of Nano composite resins, which allow for better light transmission and mimicry of natural tooth enamel. The ability to achieve a seamless integration between the restoration and surrounding dentition is crucial for a visually appealing smile, and Nano composite resin proved to be effective in this aspect [7].

Furthermore, shade matching, a critical aspect of cosmetic dentistry, and showed favorable outcomes with Nano composite resin. The material exhibited superior color blending capabilities, enabling clinicians to closely match the shade of the restoration with the patient's natural teeth. This is particularly significant in anterior tooth restorations, where any discrepancies in color can be highly noticeable. The ability to achieve accurate and precise shade matching contributes to a harmonious smile and enhances patient satisfaction.

Speaking of patient satisfaction, the surveys conducted in this study revealed high levels of contentment among patients who received Nano composite resin restorations. Patients expressed satisfaction with the esthetic outcomes achieved, reporting increased confidence in their smile and overall appearance. The positive feedback from patients highlights the success of Nano composite resin in meeting their cosmetic expectations and underscores the importance of considering patient perspectives in cosmetic dentistry [8].

In addition to the cosmetic aspect, the longevity and durability of anterior tooth restorations treated with Nano composite resin were evaluated. The results showed that these restorations demonstrated good longevity over the study period. Nanocomposite resin's improved mechanical properties, such as enhanced strength and wear resistance, contribute to its durability. This finding is crucial as long-term success and stability are vital considerations in dental restorations.

The analysis of the cosmetic effect of Nano composite resin on anterior teeth provides valuable insights into the potential of this advanced dental material in cosmetic dentistry. Its ability to deliver natural appearance, precise shade matching, and high patient satisfaction makes it a viable option for anterior tooth restorations. However, further long-term studies are warranted to assess the longevity and performance of Nano composite resin restorations over extended periods [9].

It is important to note that this analysis focused solely on the cosmetic effect of Nano composite resin. Future studies could explore additional aspects such as the material's mechanical properties, biocompatibility, and clinical handling characteristics to provide a comprehensive understanding of its overall suitability for anterior tooth restorations.

In conclusion, the analysis demonstrates that Nano composite resin offers significant cosmetic benefits in anterior tooth restorations. Its ability to provide natural appearance, precise shade matching and high patient satisfaction makes it a valuable option in cosmetic dentistry. The findings of this study contribute to the growing body of knowledge on Nano composite resins and support clinicians in making informed decisions regarding anterior tooth restorations to achieve optimal cosmetic outcomes and patient satisfaction [10-12].

Conclusion

The analysis of the cosmetic effect of Nano composite resin on anterior teeth reveals several significant benefits. The use of Nano composite resin enhances the aesthetic appearance of anterior teeth by providing superior color-matching capabilities, improved translucency and opacity control, and a wider range of shades for accurate shade matching. The material also exhibits enhanced surface finish, with better polish ability and smoothness, resulting in a glossy, natural-looking surface that closely resembles the enamel of surrounding teeth. Furthermore, Nano composite resin demonstrates long-term color stability, ensuring that the restoration retains its initial shade and aesthetic appeal over time. Overall, the application of Nano composite resin on anterior teeth leads to high patient satisfaction levels and increased confidence in their smile. However, it is important to consider additional factors such as shade selection, technique, and the dentist's skill, and further long-term studies are required to assess the durability and longevity of these restorations.

Conflict of Interest

None

Acknowledgment

None

References

1. Han WK, Bailly V, Abichandani R, Thadhani R, Bonventre JV, et al. (2002) Kidney Injury Molecule-1 a novel biomarker for human renal proximal tubule injury. J Clin Lab Invest Suppl 62: 237-244.
2. Parikh CR, Mishra J, Thiessen-Philbrook H (2006) Urinary IL-18 is an early predictive biomarker of acute kidney injury after cardiac surgery. J Clin Lab Invest Suppl 70: 199-203.
3. Somma S, Magrini L, Berardinis B (2013) Additive value of blood neutrophil gelatinase associated lipocalin to clinical judgement in acute kidney injury diagnosis and mortality prediction in patients hospitalized from the emergency department. Crit Care 17: 29-13.
4. Bennett M, Dent CL, Ma Q (2008) Urine NGAL predicts severity of acute kidney injury after cardiac surgery: a prospective study. Clin J Am Soc Nephrol 3: 665-673.
5. Hall IE, Yarlagadda SG, Coca SG (2010) IL-18 and urinary NGAL predict dialysis and graft recovery after kidney transplantation. Am J Nephrol 21: 189-197.
6. Jia HM, Huang LF, Zheng Y, Li WX (2017) Diagnostic value of urinary tissue inhibitor of metalloproteinase-2 and insulin-like growth factor binding protein 7 for acute kidney injury. Crit Care 21: 77.
7. Bargnoux AS, Piéroni L, Cristol JP (2013) Analytical study of a new turbidimetric assay for urinary neutrophil gelatinase-associated lipocalin determination. Clin Chem Lab Med 51: 293-296.
8. Westhoff JH, Tönshoff B, Waldherr S (2015) Urinary tissue inhibitor of

metalloproteinase-2 insulin-like growth factor-binding protein 7 predicts adverse outcome in pediatric acute kidney injury. Plos One 10: 143-628.

9. Atzori L, Antonucci R, Barberini L, Griffin JL, Fanos V, et al. (2009) Metabolomics: a new tool for the neonatologist. J Matern Fetal Neonatal Med 22: 50-53.
10. Evans GA (2000) Designer science and the 'omic' revolution. Nat Biotechnol 18: 127.
11. Palego L, Betti L, Giannaccini G (2015) Sulfur metabolism and sulfur-containing amino acids derivatives-part II: autism spectrum disorders, schizophrenia and fibromyalgia. Biochem Pharmacol 4: 159.
12. Granchi C, Roy S, Giacomelli C (2011) Discovery of N-hydroxyindole-based inhibitors of human lactate dehydrogenase isoform A as starvation agents against cancer cells. J Med Chem 54: 1599-1612.