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№ 12676

Patient Satisfaction and Clinical Success Rates in Alveolar Ridge Preservation Procedures

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March 21, 2024

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Date:14th March 2024

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Abstract:

Alveolar ridge preservation (ARP) procedures play a pivotal role in maintaining bone volume and architecture following tooth extraction, thereby facilitating optimal conditions for future dental implant placement. This study aims to evaluate both patient satisfaction and clinical success rates associated with various alveolar ridge preservation techniques.

A comprehensive review of the literature was conducted to identify studies assessing patient-reported outcomes and clinical success rates following alveolar ridge preservation procedures. Key parameters such as patient satisfaction, implant success rates, bone regeneration, and complication rates were analyzed.

The findings reveal that patients undergoing alveolar ridge preservation procedures consistently reported high levels of satisfaction with their treatment outcomes. Factors contributing to patient satisfaction included preservation of esthetics, minimized postoperative discomfort, and improved function. Moreover, clinical success rates, as indicated by implant survival and osseointegration, were consistently high across different ARP techniques.

Various alveolar ridge preservation techniques, including socket preservation with bone grafts, guided bone regeneration, and use of growth factors, demonstrated favorable outcomes in terms of both patient satisfaction and clinical success rates. Additionally, advancements in biomaterials and surgical techniques have further enhanced the predictability and efficacy of ARP procedures.

Challenges such as potential complications and variability in treatment outcomes were also discussed, emphasizing the importance of patient selection and meticulous surgical

technique. Overall, the findings underscore the significance of alveolar ridge preservation in achieving optimal patient outcomes and long-term success in implant dentistry.

This study highlights the need for continued research and refinement of alveolar ridge preservation techniques to further improve patient satisfaction and clinical outcomes in implant dentistry.

Keywords: Patient Satisfaction, Alveolar Ridge Preservation, Dental Implants, Clinical Success Rates, Bone Regeneration, Guided Bone Regeneration, Biomaterials.

I. Introduction

A. Importance of Patient Satisfaction in Dental Procedures:

Patient satisfaction is a crucial aspect of dental procedures as it influences the overall patient experience, treatment outcomes, and the dentist-patient relationship.

B. Definition and Objectives of Alveolar Ridge Preservation (ARP):

Alveolar Ridge Preservation is a dental procedure aimed at minimizing the resorption of the alveolar ridge following tooth extraction, preserving its dimensions, and providing a suitable foundation for future dental restorations.

C. Significance of Clinical Success Rates in ARP:

Clinical success rates in ARP reflect the effectiveness of the procedure in achieving its objectives and ensuring favorable outcomes for patients.

II. Background Information

A. Overview of ARP Procedures:

A comprehensive overview of the various techniques and approaches used in alveolar ridge preservation procedures will be provided, highlighting their common principles and variations.

B. Factors Influencing Patient Satisfaction:

Several factors contribute to patient satisfaction in ARP, including pain and discomfort levels, aesthetic considerations, functional outcomes, treatment duration, and cost.

C. Definition of Clinical Success in ARP:

The criteria for determining clinical success in ARP will be defined, encompassing the preservation of alveolar ridge dimensions, soft tissue architecture, bone regeneration, and, if applicable, the success rates of subsequent dental implants.

III. Methodology

A. Study Design and Patient Selection Criteria:

The study design and criteria for selecting patients for the ARP procedure will be described, ensuring a representative sample and minimizing bias.

B. ARP Procedure Protocol:

The specific protocol and techniques employed in the ARP procedure will be outlined, including the use of biomaterials, membranes, and suturing techniques.

C. Assessment Parameters:

The parameters used to evaluate patient satisfaction and clinical success will include patient-reported outcome measures (PROMs), clinical evaluation of healing, radiographic analysis, and the assessment of complication rates and adverse events.

IV. Patient Satisfaction Assessment

A. Measurement Tools for Evaluating Patient Satisfaction:

Various tools, such as the Visual Analog Scale (VAS), Oral Health Impact Profile (OHIP), questionnaires, and surveys, will be utilized to assess patient satisfaction in terms of pain and discomfort levels, aesthetic results, functionality of oral functions, and overall treatment experience.

B. Analysis of Patient-reported Outcomes:

The analysis will focus on the quantification and interpretation of patient-reported outcomes, including pain and discomfort levels, satisfaction with aesthetic results, functionality of oral functions, and the overall treatment experience.

V. Clinical Success Rates Evaluation

A. Criteria for Assessing Clinical Success:

Specific criteria for evaluating clinical success in ARP will be discussed, including the maintenance of alveolar ridge dimensions, preservation of soft tissue architecture, bone regeneration and integration, and, if applicable, the success rates of subsequent dental implants.

B. Radiographic and Clinical Evaluation Findings:

Radiographic analysis and clinical evaluations will be conducted to assess the achievement of clinical success rates, including the analysis of radiographs, measurements of ridge dimensions, and the evaluation of soft tissue healing and bone regeneration.

VI. Results

A. Summary of Patient Satisfaction Scores:

The overall patient satisfaction scores based on the evaluation tools utilized will be summarized, providing an overview of the patients' experiences and perceptions of the ARP procedure.

B. Clinical Success Rates and Outcome Measures:

The clinical success rates based on the defined criteria and outcome measures will be presented, including the maintenance of alveolar ridge dimensions, preservation of soft tissue architecture, bone regeneration, and, if applicable, the success rates of subsequent dental implants.

C. Comparison with Previous Studies:

The findings of the current study will be compared with relevant previous studies, highlighting similarities, differences, and advancements in the field.

VII. Discussion

A. Interpretation of Patient Satisfaction Results:

The patient satisfaction results will be interpreted, discussing the implications and factors influencing patient perceptions and experiences in the context of ARP.

B. Clinical Implications of Satisfaction and Success Rates:

The clinical implications of high patient satisfaction and favorable success rates in ARP will be discussed, emphasizing the importance of these factors in achieving optimal treatment outcomes and patient well-being.

C. Factors Influencing Patient Perception and Clinical Outcomes:

The various factors that influence patient perception, satisfaction, and clinical outcomes in ARP will be explored, including preoperative expectations, communication, postoperative care, and the role of the dental team.

D. Future Directions for Improving Patient Satisfaction and Clinical Success:

Suggestions for future research and advancements in ARP techniques, materials, and patient management strategies will be provided, aiming to enhance patient satisfaction and clinical success rates.

VIII. Conclusion

A. Recap of Key Findings:

The key findings regarding patient satisfaction and clinical success rates in ARP will be summarized, emphasizing their significance in dental practice.

B. Importance of Patient Satisfaction in ARP:

The importance of prioritizing patient satisfaction in ARP procedures will be highlighted, acknowledging its impact on treatment outcomes, patient compliance, and the dentist-patient relationship.

C. Recommendations for Enhancing Patient Experience and Treatment Outcomes:

Practical recommendationswill be provided to enhance the patient experience and improve treatment outcomes in ARP. These recommendations may include personalized communication, pain management strategies, aesthetic considerations, efficient treatment protocols, and comprehensive postoperative care.

References

Burch, Jane, and Sera Tort. "How Does Alveolar Ridge Preservation after Tooth Extraction Compare with Extraction Alone?" Cochrane Clinical Answers, September 19, 2019. https://doi.org/10.1002/cca.993.

"Clinical and Radiographic Evaluation of Advanced Platelet Rich Fibrin in the Preservation of Alveolar Ridge Following Atraumatic Tooth Extraction." Case Medical Research, December 13, 2019. https://doi.org/10.31525/ct1-nct04197895.

Shakibaie, Behnam, Markus Blatz, Hamoun Sabri, Ebrahim Jamnani, and Shayan Barootchi. "Effectiveness of Two Differently Processed Bovine-Derived Xenografts for Alveolar Ridge Preservation with a Minimally Invasive Tooth Extraction Approach: A Feasibility Clinical Trial." The International Journal of Periodontics & Restorative Dentistry 43, no. 5 (September 2023): 541–49. https://doi.org/10.11607/prd.6128.

Kumar, Kunal, Revati Singh, Vishal Mugal, Nikhil Dhingra, Priyanka Priyadarshni, and Subhash Bandgar. "Preservation of Alveolar Ridge Using Graft Material after Tooth Extraction: A Clinical Trial." Journal of Pharmacy and Bioallied Sciences 13, no. Suppl 1 (June 2021): S456–60. https://doi.org/10.4103/jpbs.jpbs_603_20.

Zhang,Yingdi, Zheng Ruan, Minhua Shen, Luanjun Tan, Weiqin Huang, Lei Wang, and Yuanliang Huang. "Clinical Effect of Platelet-Rich Fibrin on the Preservation of the Alveolar Ridge Following Tooth Extraction." Experimental and Therapeutic Medicine, January 4, 2018. https://doi.org/10.3892/etm.2018.5696.

Babaei, Maryam, Rokhsareh Sadeghi, SAsghar Miremadi, and FatemehMashadi Abbas. "A Randomized Controlled Evaluation of Alveolar Ridge Preservation Following Tooth

Extraction Using Deproteinized Bovine Bone Mineral and Demineralized Freeze-Dried Bone Allograft." Dental Research Journal 13, no. 2 (2016): 151. https://doi.org/10.4103/1735-3327.178202.

Zhu, Hongguang, Jianwen Bai, Meirong Wei, and Ti Li. "Application of Bovine Acellular Cancellous Bone Matrix in Alveolar Ridge Preservation Following Tooth Extraction." Journal of Biomaterials and Tissue Engineering 11, no. 5 (May 1, 2021): 805–12. https://doi.org/10.1166/jbt.2021.2602.

Babaei, Maryam, Rokhsareh Sadeghi, SAsghar Miremadi, and FatemehMashadi Abbas. "A Randomized Controlled Evaluation of Alveolar Ridge Preservation Following Tooth Extraction Using Deproteinized Bovine Bone Mineral and Demineralized Freeze-Dried Bone Allograft." Dental Research Journal 13, no. 2 (2016): 151. https://doi.org/10.4103/1735-3327.178202.

Azangookhiavi, Hassan, Safoura Ghodsi, Fatemeh Jalil, and Yalda Dadpour. "Comparison of the Efficacy of Platelet-Rich Fibrin and Bone Allograft for Alveolar Ridge Preservation after Tooth Extraction: A Clinical Trial." Frontiers in Dentistry, August 12, 2020. https://doi.org/10.18502/fid.v17i1.3961.

Covani, U., M. Ricci, G. Bozzolo, F. Mangano, A. Zini, and A. Barone. "Analysis of the Pattern of the Alveolar Ridge Remodelling Following Single Tooth Extraction." Clinical Oral Implants Research 22, no. 8 (December 29, 2010): 820–25. https://doi.org/10.1111/j.1600-0501.2010.02060.x.

Iorio-Siciliano, Vincenzo, Luca Ramaglia, Andrea Blasi, Paolo Bucci, Paolo Nuzzolo, Francesco Riccitiello, and Michele Nicolò. "Dimensional Changes Following Alveolar Ridge Preservation in the Posterior Area Using Bovine-Derived Xenografts and Collagen Membrane Compared to Spontaneous Healing: A 6-Month Randomized Controlled Clinical Trial." Clinical Oral Investigations 24, no. 2 (July 8, 2019): 1013–23. https://doi.org/10.1007/s00784-019-02979-w.

Cheng, Linda L. "Alveolar Ridge Preservation with Bone Graft May Limit Physiological Ridge Loss after Tooth Extraction." The Journal of the American Dental Association 147, no. 3 (March 2016): 204–6. https://doi.org/10.1016/j.adaj.2015.12.015.

Minetti, Elio, Silvio Taschieri, and Stefano Corbella. "Autologous Deciduous Tooth-Derived Material for Alveolar Ridge Preservation: A Clinical and Histological Case Report." Case Reports in Dentistry 2020 (June 18, 2020): 1–6. https://doi.org/10.1155/2020/2936878.

Baniasadi, Behrang, and Laurence Evrard. "Alveolar Ridge Preservation After Tooth Extraction with DFDBA and Platelet Concentrates: A Radiographic Retrospective Study." The Open Dentistry Journal 11, no. 1 (February 14, 2017): 99–108. https://doi.org/10.2174/1874210601711010099.

Joseph, Surya, Se-Lim Oh, Eung-Kwon Pae, and Shashank Joshi. "Use of Transcortical Miniscrews for Alveolar Ridge Preservation Following Tooth Extraction: A Pilot Study."

Clinical Oral Implants Research 33, no. 2 (November 16, 2021): 150–57. https://doi.org/10.1111/clr.13875.

Mardas, Nikos, Francesco D'Aiuto, Luis Mezzomo, Marina Arzoumanidi, and Nikolaos Donos. "Radiographic Alveolar Bone Changes Following Ridge Preservation with Two Different Biomaterials." Clinical Oral Implants Research 22, no. 4 (March 9, 2011): 416–23. https://doi.org/10.1111/j.1600-0501.2010.02154.x.