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CLINICAL FEATURES OF PROSTHODONTIC TREATMENT IN PATIENTS WITH COMPLETE EDENTULISM

Mukhamedova Amalya Akmalevna
Student of the Faculty of Dentistry

Mustafaeva Kamila Furkatovna
Assistant of the Department of Hospital Dentistry with a Course in Otolaryngology, EMU University, Tashkent, Uzbekistan

Abstract
Treatment of patients with complete edentulism presents significant clinical challenges due to anatomical, functional, and psychological factors. This review analyzes clinical considerations influencing prosthodontic outcomes. Literature from 2010–2025 was reviewed focusing on ridge anatomy, neuromuscular adaptation, and systemic factors. Successful treatment depends on individualized assessment and careful prosthetic planning.

Keywords: Complete edentulism, prosthodontic rehabilitation, ridge resorption, oral function.

Introduction

Complete edentulism represents the final stage of untreated dental disease and remains prevalent worldwide, particularly among elderly populations. Tooth loss results not only in impairment of mastication and speech but also causes facial collapse, reduced vertical dimension, and psychological distress. Prosthodontic rehabilitation aims to restore oral function, aesthetics, and quality of life.

Despite increasing use of implant-supported prostheses, conventional complete removable dentures remain the most commonly used treatment due to affordability, minimal invasiveness, and accessibility. However, treatment outcomes vary widely depending on anatomical and patient-related factors.

Clinical management of edentulous patients differs significantly from treatment of partially dentate individuals. The absence of periodontal ligament support transforms functional load transmission entirely to mucosal tissues and underlying bone, making biomechanical considerations essential.

Modern prosthodontics recognizes that successful treatment depends not only on prosthesis fabrication but also on comprehensive clinical assessment, including anatomical structures, neuromuscular coordination, systemic health, and patient expectations.

The purpose of this article is to analyze clinical characteristics affecting prosthodontic treatment planning and outcomes in patients with complete edentulism.

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Materials and Methods. A narrative literature review methodology was applied.

Literature Search Strategy

Scientific databases including PubMed, Google Scholar, and eLibrary were analyzed. Publications between 2005 and 2025 were selected using the following keywords: complete edentulism, complete denture treatment, prosthodontic rehabilitation, denture stability and retention, edentulous patient management.

Inclusion Criteria

- Peer-reviewed clinical studies
- Systematic reviews
- Prosthodontic textbooks
- Clinical guidelines related to complete denture therapy

Exclusion Criteria

- Case reports without clinical analysis
- Studies focused exclusively on implant prosthetics
- Non-clinical laboratory studies

Approximately 60 publications were analyzed, and relevant clinical concepts were synthesized.

Results

1. Anatomical Features Affecting Treatment

Residual ridge morphology is the primary determinant of denture stability.

Key anatomical factors include:

- Ridge height and width
- Degree of bone resorption
- Palatal form
- Muscle attachment position
- Vestibular depth

Severely resorbed ridges provide reduced support area, leading to instability and increased patient discomfort. Mandibular dentures demonstrate lower stability compared to maxillary dentures due to smaller supporting surfaces and tongue movement.

2. Condition of Oral Mucosa

Healthy mucosa is essential for functional denture support.

Common clinical findings include: thin atrophic mucosa, flabby ridges, hyperplastic tissue, traumatic ulcers.

Inflamed or mobile mucosa decreases load tolerance and may require pre-prosthetic treatment before denture fabrication.

3. Saliva and Oral Environment

Saliva plays a crucial role in denture retention through adhesion and cohesion forces.

Clinical observations show: normal saliva improves suction and comfort, xerostomia significantly reduces retention, systemic diseases and medications frequently cause dryness.

Patients with reduced salivary flow often report poor denture stability.

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4. Neuromuscular Coordination

Adaptation to dentures depends heavily on muscular control.

Important factors include: tongue posture, cheek muscle tone, swallowing patterns, mandibular coordination.

Elderly patients or individuals with neurological disorders show slower adaptation and higher complication rates.

5. Occlusal Considerations

Balanced occlusion contributes to prosthesis stability during function.

Clinical findings indicate that: bilateral balanced occlusion reduces tipping forces, incorrect vertical dimension causes muscle fatigue and pain, improper occlusion leads to accelerated ridge resorption.

Individualized occlusal schemes demonstrate better outcomes than standardized approaches.

6. Psychological Factors

Patient expectations strongly influence satisfaction.

Observed factors include: previous denture experience, motivation level, adaptability, psychological acceptance of tooth loss.

Patients receiving proper education demonstrate higher treatment success rates.

Discussion

The management of complete edentulism represents a complex clinical process requiring integration of biological, mechanical, and psychological principles.

Residual ridge resorption remains one of the greatest challenges in prosthodontics. Progressive bone loss continues even after denture placement, requiring periodic adjustments and relining procedures. Therefore, long-term follow-up is essential.

The literature emphasizes that denture success is multifactorial rather than dependent solely on technical fabrication. While precise impressions and occlusal accuracy are important, patient adaptation and neuromuscular learning play equally significant roles.

Modern approaches advocate individualized treatment planning. Instead of applying identical protocols to all patients, clinicians must evaluate anatomical limitations, systemic health, and functional capacity.

Another important consideration is patient education. Studies consistently demonstrate that informed patients adapt faster and report greater satisfaction. Instructions regarding chewing training, hygiene, and realistic expectations significantly improve outcomes.

Although implant-supported prostheses offer improved retention, conventional complete dentures remain indispensable due to economic and medical limitations in many populations.

Future developments in digital dentistry and advanced materials may improve denture precision and comfort; however, clinical examination and biological principles will remain fundamental.

Conclusion

Prosthodontic treatment of patients with complete edentulism requires comprehensive clinical evaluation and individualized planning. Anatomical conditions, mucosal health, salivary function,

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neuromuscular coordination, occlusion, and psychological factors significantly influence treatment success.

Complete dentures remain an effective rehabilitation method when clinical principles are properly applied. Long-term success depends on both prosthetic quality and patient adaptation. A patient-centered approach represents the modern standard of prosthodontic care.

References

1. Abdullayev X., Ismatova K. Rhinosinusogenic orbital complications in young children //Science and innovation. – 2024. – T. 3. – №. D7. – C. 103-106.
2. Badarch M., Iriskulova E., Tudevdagva U. Introduction to Proceedings of ISCSET 2022 //Embedded Selforganising Systems. – 2022. – T. 9. – №. 3. – C. 2-3.
3. Ergashev J. D., Sigatullina M. I., Ibragimov U. K. Neuropsychic growth of children with hypoxi–ischemic encephalopathy //The 2th World Congress of Neonatology.–6th–9th January. – 2010. – C. 19.
4. Ergashev J. et al. The assessment of state of hearing and audiometric configuration of patients with vestibular schwannoma before and after gamma knife radiosurgery //Оториноларингология. Восточная Европа. – 2017. – Т. 7. – №. 1. – С. 31-38.
5. Ergashev J. et al. Epidemiological and evolutionary study of vestibular schwannomas after different types of treatment : дис. – Universidade de Santiago de Compostela, 2014.
6. Ergashev J. et al. Clinical picture of vestibular schwannomas in a series of 106 patients managed with different treatment methods //Новый день в медицине. – 2019. – №. 4. – С. 369-373.
7. Ergashev J. D. et al. MANAGEMENT OF VESTIBULAR SCHWANNOMAS: AGE MATTERS //SCIENCE. – 2024. – Т. 3. – №. 10-4. – С. 221-225.
8. Ergashev J. D. et al. Gamma Knife Radiosurgery for Vestibular Schwannomas: Favorable and Unfavorable Effects in Series of 42 Patients. – 2019.
9. Ganiev A. A. et al. The practice of oropharynx cancer: A case report and literature review //Annals of Cancer Research and Therapy. – 2019. – Т. 27. – №. 2. – С. 37-41.
10. Iriskulova E. et al. Intraparotid facial nerve schwannoma: a cross-country report of two cases and literature review //Annals of Cancer Research and Therapy. – 2020. – Т. 28. – №. 2. – С. 93-96.
11. Iriskulova E., Kodirova Z., Juraboev S. Prognosis of Complications at Surgical Treatment of Benign Parotid Tumors //Embedded Selforganising Systems. – 2022. – Т. 9. – №. 3. – С. 70-72.
12. Iriskulova E. et al. Intraparotid facial nerve schwannoma: a cross-country report of two cases and literature review //Annals of Cancer Research and Therapy. – 2020. – Т. 28. – №. 2. – С. 93-96.
13. Iriskulova E., Nurxojaeva A. Express assessment of sonoelastographic parameters in patients with tumors of the parotid salivary gland //Embedded Selforganising Systems. – 2022. – Т. 9. – №. 3. – С. 18-19.
14. Ismatova K. A. et al. The new coronavirus infection in otolaryngological practice: clinical features in different age groups //Science and innovation. – 2023. – Т. 2. – №. Special Issue 8. – С. 813-816.
15. Khamraeva V. S., Karabaev H. E., Ergashev J. D. The choice of optimal medical method for exudative otitis media in children //CHOICE. – 2018. – Т. 4. – С. 24-2018.

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

16. Shovkatovich S. O., Muratovna N. M. OPTIMIZATION OF COMPLEX THERAPY FOR CHRONIC RECURRENT APHTHOUS STOMATITIS //World Scientific Research Journal. – 2025. – Т. 45. – №. 1. – С. 119-123.
17. Shovkatov O.Sh., Sharipov S.S., Akhundjanov R.A. / 2025. MODERN PROSTHODONTIC TECHNOLOGIES IN COMPLETE EDENTULISM: APPLICATION OF CAD/CAM AND 3D PRINTING. Журнал гуманитарных и естественных наук. 2, 28 [2] (дек. 2025), 6–13.
18. Shovkatov O.Sh., Sharipov S.S., Akhundjanov R.A. 2025. BIOMATERIALS AND THEIR BIOLOGICAL COMPATIBILITY: A CLINICAL ANALYSIS OF PMMA, THERMOPLASTICS, BIOACTIVE POLYMERS, NANOMATERIALS, AND NEXT-GENERATION ZIRCONIA. Журнал гуманитарных и естественных наук. 2, 28 [2] (дек. 2025), 19–25.
19. Shovkatov O.Sh., Mirsaidov M.M. (2026). KATTA CHAYNOV TISHLARI EKSTRAKSIYASIDAN KEYINGI YALLIG‘LANISHLARNING OLDINI OLISHDA ANTIBIOTIKLAR SAMARADORLIGINI BAHOLASH. ОСНОВЫ МЕДИЦИНЫ, 1(8), 147–150. извлечено от https://journals.tnmu.uz/tas/article/view/3760
20. Yun J. M. et al. Optimizing Cochlear Implant Position for Magnetic Resonance Imaging of Vestibular Schwannoma //Laryngoscope Investigative Otolaryngology. – 2025. – Т. 10. – №. 6. – С. e70319.

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