e-ISSN: 0976-822X, p-ISSN:2961-6042

Available online on http://www.ijcpr.com/

International Journal of Current Pharmaceutical Review and Research 2025; 17(8); 945-950

Case Report

Oral Rehabilitation of an ADHD Patient - Case Report

Neeraj Trehan[1], Rahma A Moussa[2], Sameeha Ghouse[3], Nikhila Reddy Venkannagari[4], Scot G. Canlas[5], Sandy Samir Moheb Metry[6]

[1]Doctorate of Dental Medicine (DMD), Private Practitioner, USA
[2]Bachelor's of Oral and Dental medicine, Egypt, Research Assistant (INDIA)
[3,4]BDS (India), Research Assistant (USA)
[5]Doctor of Dental Medicine, Philippines, Research Assistant (USA)
[6] Bachelor of Dental Surgery, Egypt, Research Assistant (USA)

Received: 01-05-2025 Revised: 15-06-2025 / Accepted: 21-07-2025
Corresponding author: Dr. Neeraj Trehan
Conflict of interest: Nil

Abstract

Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder characterized by inattention, impulsivity, and hyperactivity, which may affect oral health maintenance, compliance with dental treatment, and prosthetic adaptation. Patients with ADHD often exhibit poor oral hygiene, dietary habits predisposing to caries, and difficulties in adapting to complex dental prostheses. A 26-year-old male with a confirmed diagnosis of ADHD, under methylphenidate therapy, presented with missing teeth, impaired mastication, and dissatisfaction with his appearance. Clinical and radiographic assessment revealed partial edentulism, generalized attrition, and reduced vertical dimension. A treatment plan was designed involving extracoronal precision attachments for the maxillary arch and a conventional removable partial denture for the mandibular arch, with modifications to ensure simplified maintenance and improved compliance.

The prosthetic rehabilitation restored function, aesthetics, and patient confidence. Over six months of follow-up, the patient adapted well to the prostheses, with improved masticatory efficiency, speech, and oral hygiene adherence through caregiver-assisted instructions. Prosthetic rehabilitation of ADHD patients requires tailored strategies that emphasize simplicity, durability, and patient compliance. With proper planning and patient education, precision attachment-retained prostheses can provide functional and aesthetic success.

Keywords: ADHD, Precision attachment, Prosthodontic rehabilitation, Oral health-related quality of life.

Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is a prevalent neurodevelopmental disorder with symptoms persisting into adulthood in nearly 60% of cases [1].

Adults with ADHD experience significant challenges in daily functioning, including self-care practices such as oral hygiene [2]. Research shows that ADHD patients often present with higher prevalence of dental caries, periodontal disease, and tooth loss, attributed to poor hygiene compliance, impulsive eating habits, and irregular dental visits [3]. Furthermore, stimulant medications such as methylphenidate are linked to xerostomia, bruxism, and increased risk of dental attrition [4].

Prosthodontic rehabilitation in ADHD patients is challenging due to limited attention span, restlessness during appointments, and difficulty in following complex hygiene and maintenance instructions [5]. Patients may also demonstrate heightened dental anxiety, further complicating treatment adherence [6]. Thus, treatment approaches must focus on simplification, patient education, and the incorporation of caregiver support [7]. Recent evidence emphasizes the role of patient-centered prosthodontics in medically or behaviorally compromised patients, where simplified designs and durable prostheses improve long-term outcomes [8]. Advances in attachment systems and digital dentistry have allowed for prostheses that balance function, aesthetics, and ease of maintenance [9]. For ADHD patients, where compliance may fluctuate, extracoronal precision attachments provide stability and ease of insertion, improving adaptation and comfort [10].

This report presents the oral rehabilitation of an ADHD patient with partial edentulism, focusing on behavioral considerations, prosthetic modifications, and patient-specific management strategies.

Case Report

A 26-year-old Lebanese male presented to the dental department with chief complaints of difficulty chewing and dissatisfaction with his smile due to missing teeth. His medical history revealed a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD), for which he was taking methylphenidate. The patient reported frequent snacking on sugary foods, difficulty maintaining oral hygiene, and irregular attendance at dental check-ups due to distractibility and forgetfulness.

Clinical Examination: Extraoral examination revealed normal facial symmetry with slightly strained perioral musculature due to parafunctional clenching habits. Intraoral examination showed partial edentulism, generalized attrition of anterior teeth, and moderate alveolar ridge resorption in posterior regions. Gingival inflammation and plaque accumulation were evident, consistent with poor oral hygiene. Occlusal analysis revealed reduced vertical dimension and impaired masticatory efficiency. Radiographic assessment confirmed generalized bone loss and absence of multiple posterior teeth in both arches.

Treatment Plan: The prosthetic rehabilitation aimed to restore aesthetics, mastication, and patient comfort, while simplifying design to accommodate ADHD-related compliance challenges. The maxillary canines and first premolars were prepared for full-coverage crowns incorporating extracoronal castable precision attachments to support a removable partial denture framework. For the mandibular arch, a conventional removable partial denture was planned to restore posterior occlusion.

Preliminary impressions were made using irreversible hydrocolloid, followed by final impressions with elastomeric material for accuracy. Jaw relation records were carefully obtained, with shortened appointment times to accommodate the patient's reduced attention span. Trial dentures were evaluated for aesthetics, phonetics, and occlusion, ensuring simplified insertion and removal pathways to minimize daily handling difficulties. The prostheses were fabricated in heat-cured acrylic resin with polished borders for comfort and reinforced retention through precision attachments.

Upon delivery, the patient reported immediate improvement in mastication and appearance. Initial adaptation required repeated motivation and caregiver guidance to ensure consistent use and cleaning of the prostheses. Follow-up visits over six months revealed excellent prosthesis stability, improved oral hygiene compliance, and enhanced patient confidence in social interactions.

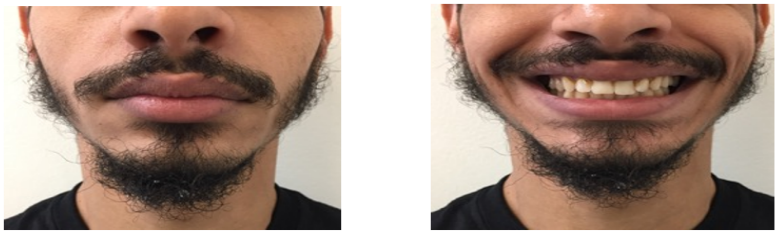


Figure 1: Extra oral Examination

Figure 2: Intraoral Examination

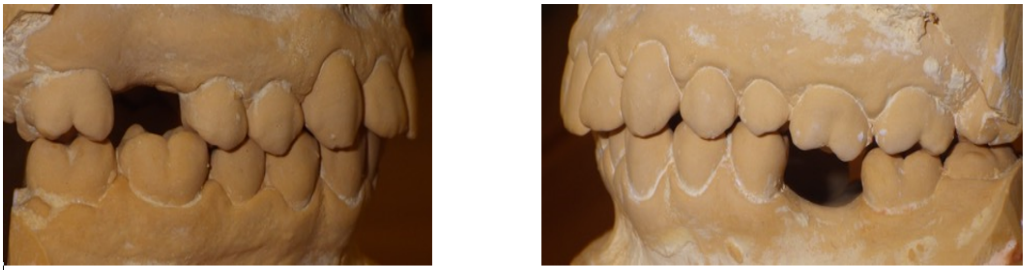


Figure 3: Occlusal Evaluation – Static


Right Working


Non-Working


Left Working


Non-Working

Figure 4: Occlusal Evaluation – Dynamic

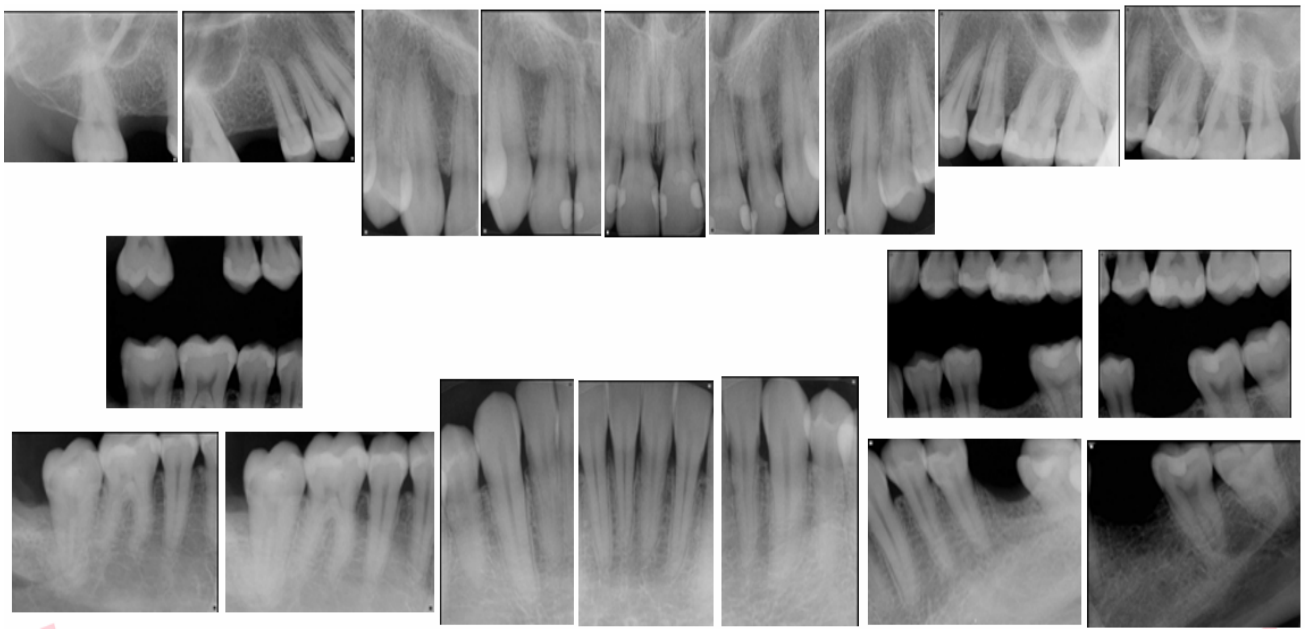
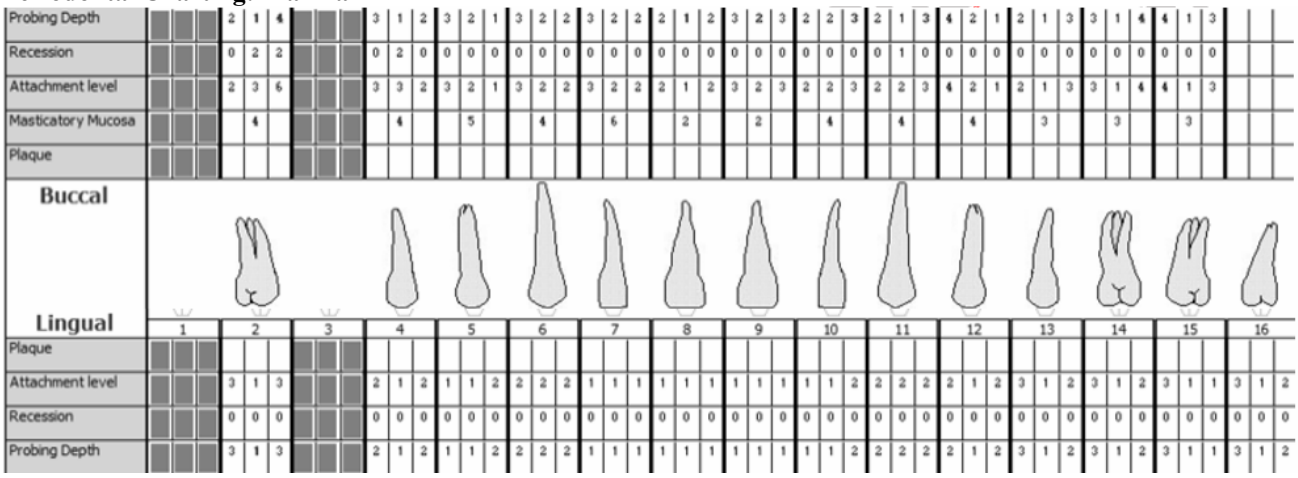


Figure 5: Radiographs

Periodontal Charting: Maxilla



Periodontal Charting: Mandible

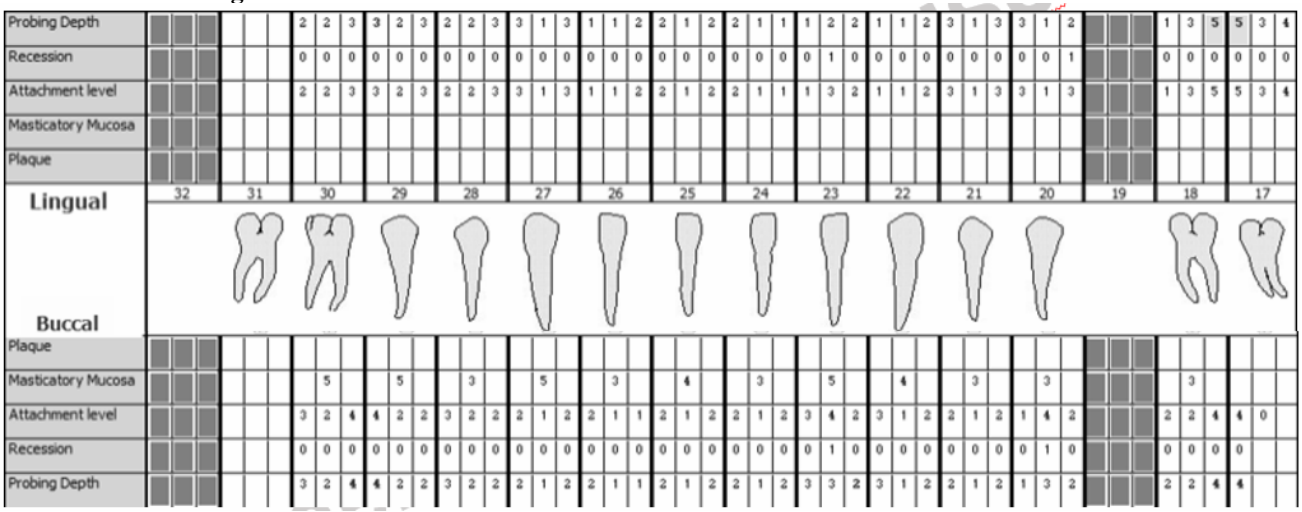


Figure 6: Periodontal charting of Maxilla and Mandible

Figure 7: Post-Operative Occlusal Evaluation Static

Figure 8: Post-Operative Occlusal Evaluation Dynamic

Discussion

Oral rehabilitation in ADHD patients requires unique adaptations that consider attention deficits, impulsivity, and compliance challenges. Studies have shown that behavioral disorders directly impact oral health outcomes, increasing the risk of caries and periodontal disease [11].

Patient satisfaction is closely linked to prosthesis simplicity, durability, and comfort, making precision attachment-retained prostheses an effective option [12]. Rusu et al. [13] reported that patients rehabilitated with extracoronal attachments demonstrated significant improvements in oral health-related quality of life, which is particularly relevant for ADHD patients whose self-esteem and psychosocial functioning may be compromised.

Haralur et al. [14] emphasized that quality-of-life improvements from prosthetic rehabilitation are essential in patients with behavioral or systemic disorders, where functional and psychological domains overlap. Mitrani et al. [15] highlighted the need for simplified design and patient education to ensure long-term prosthesis survival, principles directly applicable to ADHD cases where treatment adherence can be inconsistent. Thus, this case demonstrates that with tailored prosthodontic strategies—shorter appointments, simplified prosthesis design, caregiver involvement, and reinforcement of hygiene practices—ADHD patients can successfully adapt to oral rehabilitation with precision attachment-retained dentures.

Conclusion

ADHD poses behavioral challenges that complicate prosthodontic rehabilitation, but with simplified design, caregiver support, and tailored appointment strategies, successful outcomes can be achieved. Precision attachment-retained prostheses provide stable, aesthetic, and functional rehabilitation, improving both oral health and psychosocial well-being in ADHD patients.

References

1. Kalia LV, Lang AE. Parkinson's disease. Lancet. 2015; 386(9996):896-912.
2. Poewe W, Seppi K, Tanner CM, Halliday GM, Brundin P, Volkmann J, et al. Parkinson disease. Nat Rev Dis Primers. 2017; 3:17013.
3. Chaudhuri KR, Healy DG, Schapira AH. Non-motor symptoms of Parkinson's disease: diagnosis and management. Lancet Neurol. 2006; 5(3):235-45.
4. Müller T, Palluch R, Jackowski J. Caries and periodontal disease in patients with Parkinson's disease. Spec Care Dentist. 2011; 31(5):178-81.
5. Hanaoka A, Kashihara K. Increased frequency of caries, periodontal disease and tooth loss in

patients with Parkinson's disease. J Clin Neurosci. 2009; 16(10):1279-82.
6. Bakke M, Larsen SL, Lautrup C, Karlsborg M. Orofacial function and oral health in patients with Parkinson's disease. Eur J Oral Sci. 2011; 119(1):27-32.
7. Müller T. Dental treatment of patients with Parkinson's disease. J Neural Transm (Vienna). 2006; 113(10):1509-12.
8. Ueno M, Yanagisawa T, Shinada K, Ohara S, Kawaguchi Y. Oral health status in patients with Parkinson's disease: a case-control study. Gerodontology. 2010; 27(3):134-8.
9. Müller F, Naharro M, Carlsson GE. What are the prevalence and incidence of tooth loss in the adult and elderly population in Europe? Clin Oral Implants Res. 2007; 18 Suppl 3:2-14.
10. Ferreira MC, de Oliveira Ferreira F, Campos CH, Rodrigues Garcia RC. Denture wearing and quality of life in edentulous patients with Parkinson's disease. Gerodontology. 2017; 34(2):135-40.
11. McCord JF, Tyson KW. Management of edentulous patients with Parkinson's disease. Dent Update. 2005; 32(1):28-32.
12. Ribeiro GR, Campos CH, Rodrigues Garcia RC. Mastication and oral health-related quality of life in patients with Parkinson's disease. J Oral Rehabil. 2017; 44(6):435-42.
13. Heydecke G, Locker D, Awad MA, Lund JP, Feine JS. Oral and general health-related quality of life with conventional and implant dentures. Community Dent Oral Epidemiol. 2003; 31(3):161-8.
14. Weintraub D, Comella CL, Horn S. Parkinson's disease—Part 1: Pathophysiology, symptoms, burden, diagnosis, and assessment. Am J Manag Care. 2008; 14(2 Suppl):S40-8.
15. Nitschke I, Müller F. Improving oral health in older patients with Parkinson's disease. Neurodegener Dis Manag. 2014; 4(5):433-43.