Smart Dental Update
Volume 5 | Issue 45 |2024

SMART DENTAL UP

Dear Doctor,

Greetings from Micro Labs Limited. We are happy to bring you **"SMART DENTAL UPDATES"** which contain latest and interesting news in the field of Dentistry.

This issue contains:

- **Determination of the long-term stability of Extended Alloplastic Replacement in unilateral reconstruction of large mandibular defects involving Temporomandibular Joint**
- **Evaluation of Oral Health and Minimally Important Differences in Oral Health-Related Quality of Life Among Non-Diabetic and Diabetic Patients**
- **A Retrospective Analysis of Periapical Radiographs to Determine the Morphology of Peri-Implant Bone Defects**
- **A Unique Case of Oral White Sponge Nevus and its Diagnostic Challenges**

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Determination of the long-term stability of Extended Alloplastic Replacement in unilateral reconstruction of large mandibular defects involving Temporomandibular Joint

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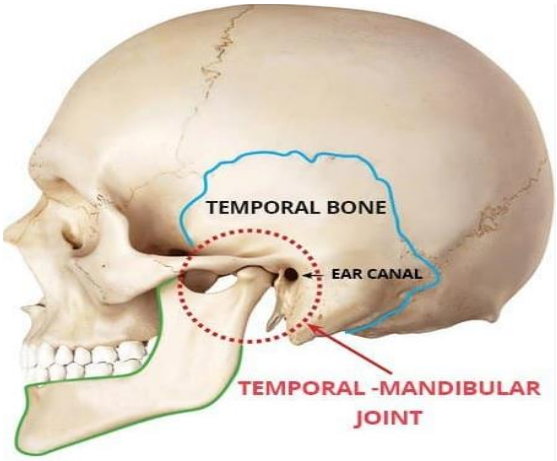
INTRODUCTION

Extended alloplastic total temporomandibular joint reconstruction (eTMJR) is a modified approach to the standard total alloplastic temporomandibular joint reconstruction (TMJR), designed to replace the fossa-condyle articulating complex.[1] A personalized eTMJR may be an option for cases of mandibular pathology where resection leads to a substantial anatomical deficit that extends to or involves the temporomandibular joint (TMJ).[2] In situations like extensive benign mandibular lesions, congenital anomalies, developmental anomalies, extensive traumatic injuries, and osteomyelitis, conventional TMJR or autogenous tissue grafting may not be suitable for reconstruction. The choice of reconstruction technique for large mandibular deficits involving the TMJ depends on various factors, including the nature of the pathology, the need for postoperative oncological treatment, the patient's age and growth potential, the complexity and extent of the defect, and the surgeon's expertise. The primary surgical objective was to reconstruct the mandible to enhance function, appearance, and the patient's overall quality of life. Alloplastic reconstruction methods like eTMJR are becoming more and more popular due to developments in materials, design, and manufacturing technology. Although the literature generally reports improvements in mandibular function and appearance, the impact of eTMJR on subjective factors such as oral health-related quality of life (oHrQoL) varies.[3] Hence, the main objective of this study was to assess the enduring stability of eTMJR in unilateral reconstruction of significant mandibular defects affecting the TMJ, focusing on both objective measures of mandibular function and subjective assessments related to oHrQoL.



TEMPORO-MANDIBULAR JOINT

For individuals with significant mandibular impairments, including those involving the TMJ, eTMJR seems to be a predictable, safe treatment option.

METHODS

This single-center, prospective, long-term observational study examines the objective and subjective outcomes of 21 individuals who underwent eTMJR, with follow-up exceeding 5 years post-surgery. The study included all patients who received unilateral eTMJR and met the inclusion criteria: 1) eTMJR involving the mandibular angle, 2) age over 18 years, and 3) minimum 1-year follow-up. Custom prostheses were provided to all patients. Patient records were reviewed for demographics (gender, age), preoperative variables (pathology, radiation

therapy, time interval between ablative surgery and insertion, spacer), and operative variables (e-TMJR classification, microvascular-assisted e-TMJR). Clinical data included bilateral kinematic measurements, bilateral maximum voluntary clenching force (MVC), contralateral surface electromyography (sEMG), visual analog scale (VAS), and oral health impact profile (OHIP). Data were collected preoperatively (T0), at 1 year postoperatively (T1), between 2 and 5 years postoperatively (T2), and at the latest follow-up (T3). The study assessed the long-term stability of eTMJR by evaluating objective measures (mandibular kinematics, contralateral sEMG, MVC) and subjective oral health-related quality of life (oHrQoL).

RESULTS

	T0		T1		T2		T3		ANOVA
Objective variables	**n**	**Mean SD**	**n**	**Mean SD**	**n**	**Mean SD**	**n**	**Mean SD**	
Condylar range of motion (CRoM)									
opening (mm) ipsi	16	19.33 (13.14)	17	5.01 (4.4)	18	4.51 (4.19)	9	4.13 (3.99)	F 14.27 P 0.001 T0-1, T0-2, T0-3
opening (mm) contra	16	18.17 (10.1)	17	14.79 (6.81)	18	12.69 (7.21)	9	10.43 (6.95)	F 2.59 P 0.094
Incisal range of motion (InRoM)									
opening (mm)	16	31.84 (12.06)	17	32.10 (6.45)	18	35.22 (8.33)	9	35.96 (6.25)	F 0.79 P 0.503
opening rotation angle (◦)	16	25.06 (6.12)	17	23.61 (4.80)	18	25.58 (4.09)	9	27.48 (3.58)	F 0.77 P 0.518
opening deflection (mm)	16	7.39 (5.19)	17	7.49 (5.08)	18	7.26 (4.4)	9	7.34 (4.02)	F 0.01 P 0.999
laterotrusion (mm) ipsi	16	2.23 (1.29)	17	1.61 (2.09)	18	1.16 (0.73)	9	1.17 (0.99)	F 1.84 P 0.150
laterotrusion (mm) contra	16	5.86 (2.82)	17	6.52 (4.3)	18	5.58 (2.28)	9	6.81 (3.57)	F 0.41 P 0.745
sEMG activity bite test									
temporalis muscle (µV) contra	5	48.8 (21.97)	5	101.6 (58.35)	9	68.1 (30.46)	9	98.44 (34.72)	F 2.83 P 0.06
masseter muscle (µV) contra	5	66.88 (59.06)	5	117.50 (79.36)	9	109.94 (80.27)	9	120.89 (74.96)	F 0.61 P 0.612
Maximum voluntary clenching (MVC)									
(N) ipsi	13	60.06 (38.37)	12	91.14 (60.06)	15	153.41 (121.31)	8	114.48 (58.17)	F 3.29 P 0.029 T0-2
(N) contra	16	126.55 (111.99)	16	219.05 (120.3)	16	253.77 (133.61)	8	258.42 (96.31)	F 3.80 P 0.015 T0-2

Table 1. Impact of study duration on objective mandibular function (kinematic, sEMG, MVC) results in individuals with unilateral eTMJR

Abbreviations: eTMJR- extended temporomandibular joint replacement; sEMG- surface electromyography; ipsi- ipsilateral; contra- contralateral; T0- preoperative; T1- 1 year post TMJR; T2- 2–5 years post TMJR; T3- latest follow-up; n- number of patients; SD- standard deviation

Out of the total joints, 47.6% were placed in males, while 52.3% were placed in females. The mean age at the time of eTMJR surgery was 50.1 ± 18.7 years. Distribution of eTMJR classifications was as follows: F0M1 (microvascular aided, n = 2) - 28.6%, F0M2 - 38.1%, F0M3 - 23.8%, FAM1 (microvascular aided, n = 1) and FAM2 - 4.8% each. Mild effects on condylar (CRoM) and incisal (InRoM) range of motion, rotation angle, opening deflection, and laterotrusion were observed over time. Contralateral sEMG activity showed improvement without statistical significance. A significant time effect was found for ipsilateral CRoM ($F(3,56) = 14.28$, $P = 0.001$, $\omega = 0.63$), with a significant decrease between T0 and T1 ($P = 0.001$), T2 ($P = 0.001$), and T3 ($P = 0.001$), as well as for ipsi- and contralateral MVC (ipsilateral $F(3,44) = 3.29$, $P = 0.029$, $\omega = 0.38$; contralateral $F(3,52) = 3.80$, $P = 0.015$, $\omega = 0.38$), with a significant increase between T0 and T2 (ipsilateral $P = 0.019$; contralateral $P = 0.02$) (Table 1). Distinct improvement in OHrQoL was observed. Pain intensity (VAS1, 2) decreased, while 'mandibular function' (VAS 3) and 'diet consistency' (VAS 4) increased. Significant improvement in 'diet consistency' was noted ($F(3,57) = 7.02$, $P = 0.001$, $\omega = 0.05$) with an increase between T0 and T2 ($P = 0.007$) and T0 and T3 ($P = 0.001$). OHIP also showed improvement, with a significant result for the dimension 'physical stress' ($F(3,54) = 2.89$, $P = 0.043$, $\omega = 0.32$).

DISCUSSION

The findings suggested that eTMJR devices, throughout the study duration, demonstrated enhancements in both objective and subjective measures, indicating their potential as a safe and effective treatment option for individuals with significant mandibular deficits, including those involving the TMJ.[3] Raccampo et al. suggested that the utilization of eTMJR could be regarded as a secure and dependable surgical approach for specific patients dealing with substantial lesions involving the temporomandibular joint and skull base (TMJ-SB).[4]

CONCLUSION

Considering the consistent stability observed in eTMJR devices throughout the study duration, alongside enhancements in both objective and subjective measures, it was suggested that eTMJR presented as a reliable and safe treatment option for patients with significant mandibular deficits, including those involving the TMJ.

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Evaluation of Oral Health and Minimally Important Differences in Oral Health-Related Quality of Life Among Non-Diabetic and Diabetic Patients

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INTRODUCTION

The OHRQoL of non-diabetics and diabetics was linked to different parameters. Diabetics' OHRQoL may be enhanced by the supply of extra chewing units and therapy intended to keep teeth in a caries-free and periodontally healthy state.

Diabetes is often linked with various oral complications, including xerostomia, taste alterations, oral candidiasis, and periodontal disease. Individuals with poorly managed or uncontrolled diabetes were particularly prone to developing periodontal disease, marked by progressive loss of alveolar bone, clinical attachment loss (CAL), and deepening of periodontal pockets. Certain research indicated that addressing and managing periodontal disease may play a role in enhancing the metabolic control of diabetes, suggesting it should be integrated into diabetes management protocols.[1] Assessing Oral Health-Related Quality of Life (OHRQoL) was crucial for understanding the personal impact of oral conditions on patients and their treatment expectations. Differences in oral health issues and their effects on OHRQoL may exist between non-diabetic and diabetic individuals. Comparing oral health status and coping mechanisms between these groups, as well as identifying factors influencing OHRQoL, can aid in developing more patient-centered treatment plans for enhanced outcomes.[2] This study was carried out to evaluate periodontal status, dental health, coping strategies, and OHRQoL in patients with DM (Diabetes Mellitus), and compare these findings with those of patients without DM. In addition, the study assessed factors linked to OHRQoL in both DM and non-DM participants.

METHODS

This cross-sectional study involved 111 non-diabetic and 107 diabetic participants aged 35–65 years, each having at least two teeth in every quadrant. All participants provided consent and underwent clinical examinations, which included recording decayed (D), missing (M), and filled (F) teeth (DMFT), plaque accumulation (Pl%), bleeding on probing (BOP%) measured as percentages, probing pocket depths (PPD), and clinical attachment loss (CAL) in millimeters. Additionally, participants completed questionnaires assessing coping strategies (using abbreviated Coping Orientation to Problems Experienced) and OHRQoL (using short-form Oral Health Impact Profile - OHIP-14S). Factors associated with OHRQoL were analyzed using correlation/partial correlation techniques. Minimally important differences (MID) of OHIP-14S were calculated to establish associations between attachment loss, caries, and tooth loss with OHRQoL.

RESULTS

Among DM participants, a statistically significant difference ($P = 0.030$) was observed in OHIP-14S (mean ± SD) between those with no decayed teeth (7.2 ± 6.9) and those with ≥1 decayed tooth (12.7 ± 12.2). Conversely, in

non-diabetic patients (NDM) participants, no statistically significant difference (P = 0.274) was found in OHIP-14S (mean ± SD) between those with no decay (11.3 ± 9) and those with ≥1 decayed tooth (13.6 ± 12.4). Positive correlations were noted between OHIP-14S and coping strategies such as denial, venting of emotions, behavioural disengagement, substance use, religion, and decayed teeth. Factors associated with OHIP-14S among NDM and DM participants were detailed in Table 1. Non-diabetic individuals exhibited poorer periodontal status, while diabetics showed a higher prevalence of missing teeth. Both groups tended to utilize maladaptive coping strategies to address oral health concerns. Overall, non-diabetics reported lower OHRQoL. The determination of MID revealed that non-diabetic individuals with high-severe attachment loss and fewer than 20 teeth experienced diminished OHRQoL, whereas diabetics with caries, high-severe attachment loss, and fewer than 25 teeth also reported poorer OHRQoL.

Table 1. Correlation investigating the factors linked to the OHIP-14S in the individuals with DM and NDM

Variables	NDM (n = 111)		DM (n = 107)	
	r	P-value	r	P-value
Age	-0.003	0.979	-0.012	0.905
Education level	-0.090	0.349	-0.225	0.020
Household income	-0.096	0.318	-0.140	0.152
Brief COPE				
Active coping	0.122	0.201	-0.166	0.088
Planning	0.021	0.828	0.019	0.849
Use of instrumental social support	-0.175	0.066	0.049	0.615
Humour	-0.067	0.485	0.113	0.246
Use of emotional support	0.020	0.831	0.076	0.438
Positive re-interpretation	-0.037	0.700	0.041	0.674
Acceptance	0.009	0.926	0.060	0.541
Denial	0.219	0.021	0.114	0.244
Distraction	0.125	0.190	0.170	0.081
Focus on venting of emotions	0.079	0.407	0.222	0.022
Behavioural disengagement	0.081	0.396	0.182	0.060
Substance use	0.067	0.483	0.112	0.251
Religion	0.062	0.516	0.111	0.256
Self-blame	0.110	0.252	0.217	0.025
Oral conditions				
Plaque accumulation in % (Pl%)	0.093	0.330	0.293	0.002
Bleeding on probing in % (BOP%)	0.129	0.176	0.363	<0.001
Mean clinical attachment loss (mm)	0.200	0.035	0.243	0.012
Decayed teeth	0.058	0.548	0.247	0.010
Missing teeth	0.143	0.135	0.234	0.015
Filled teeth	0.025	0.797	0.137	0.161

Brief COPE = abbreviated Coping Orientation to Problems Experienced inventory; DM = diabetes mellitus; NDM = non-diabetic; OHIP-14S = Chinese short-form Oral Health Impact Profile. *Spearman's correlation.

DISCUSSION

Based on the study's constraints, non-diabetic participants exhibited poorer OHRQoL outcomes compared to diabetic counterparts. However, among diabetic participants, OHRQoL was notably linked to various oral conditions, particularly those with higher attachment loss (≥3 mm mean full mouth CAL), increased missing teeth (≥4 missing teeth), and dental caries (≥1 decayed teeth), who reported more pronounced declines in OHRQoL.[2] Cervino et al. determined that diabetic patients frequently experience a decline in their quality of life, often attributed to both local and systemic complications of the disease. Additionally, there exists a strong association between diabetes and the development of psychological issues in affected individuals. Regarding oral health, compelling evidence links diabetic patients with an increased risk of periodontal disease.[3] Diabetic participants, already managing a chronic systemic condition, may have perceived dental caries discomfort as an

additional inconvenience affecting their OHRQoL. Implementing improved oral hygiene routines and regular preventive dental visits could offer long-term benefits by reducing caries risk and enhancing OHRQoL.[4]

CONCLUSION

The non-diabetic participants exhibited poorer OHRQoL compared to diabetic counterparts. But among participants with diabetes, OHRQoL was associated with a number of oral problems; individuals with more attachment loss (≥3 mm mean full mouth CAL), more missing teeth (≥4 missing teeth), and dental caries (≥1 decaying tooth) reported lower OHRQoL. More teeth or prosthetics may be necessary for diabetics to improve their ability to chew. Diabetic individuals may require additional teeth or prostheses to enhance chewing function. Treatment strategies focusing on tooth preservation and providing adequate chewing units, while managing known risks, could effectively improve OHRQoL in diabetic patients. Moreover, dysfunctional coping strategies were associated with OHRQoL in both non-diabetic and diabetic participants, suggesting a need for problem-focused motivational interventions to address negative perceptions towards oral health.

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A Retrospective Analysis of Periapical Radiographs to Determine the Morphology of Peri-Implant Bone Defects

INTRODUCTION

The morphology of peri-implant lesions plays a crucial role in determining the appropriate surgical approach and the prognosis of implants. Research has shown that the success of surgical regenerative therapy for peri-implantitis was influenced by the morphological characteristics of the lesions, particularly in cases of contained circumferential peri-implant defects, also known as Class Ie. The authors observed that the most prevalent defect configuration was the circumferential type (Class Ie), occurring in 55.3% of human cases.[1] In a recent study by Monje et al., a novel classification system for peri-implantitis defects was proposed based on their morphology and severity, evaluated using tridimensional radiographic

assessment. Regarding defect morphology, three primary categories were identified: intraosseous (Class I), supracrestal (Class II), and combined defects (Class III). Within Class I defects, further classification included subclasses A (with buccal dehiscence), B (2- or 3-wall defect), or C (circumferential defect). The severity of peri-implant lesions was categorized as slight if not exceeding 25% of the implant length, moderate if ranging between 25% and 50%, and advanced if extending beyond 50% of the implant length.[2] This radiographic investigation was to evaluate the morphological characteristics of peri-implant defects, utilizing 2D intraoral radiographs, commonly employed for routine monitoring of peri-implant health. Additionally, the study aimed to explore potential correlations between these morphological features and various parameters associated with the position and characteristics of the implant or the implant-supported prosthesis.

A 2D radiographic analysis revealed the frequency of crateriform peri-implant abnormalities, which were noticeable on the mesial and distal aspects and have a hygiene-correlated extension. When 3D imaging becomes accessible, it may be utilised for more research and clinical examination.

METHODS

This retrospective study focused on patients who underwent dental implant treatment, specifically targeting those diagnosed with peri-implantitis. A total of 73 implants across 27 patients were included in the analysis. Inclusion criteria comprised: (i) Patients receiving implant-supported single crowns, fixed partial dentures, or full-arch prostheses; (ii) Age ≥18 years; (iii) Confirmed diagnosis of peri-implantitis; (iv) Availability of complete radiographic and clinical records, including information on smoking habits and systemic diseases. Relevant data regarding implant treatment were extracted from clinical documentation, including patient age at implant placement, implant length and diameter, implant brand, utilization of guided bone regeneration (GBR) and associated materials, type of implant-supported prosthesis, timing of provisional and definitive prosthesis placement. Morphological defect measurements were conducted by two operators using digitalized intraoral periapical radiographs.

RESULTS

Regarding factors associated with peri-implantitis risk, the study noted that out of 73 diseased implants, 32 were in 12 smoking patients, three in one patient with diabetes, and 45 in 17 patients with a history of periodontitis. Oral hygiene levels varied among patients, with approximately 35%, 45%, and 20% having poor, fair, and good plaque control, respectively, at the implant level. Most patients (almost 60%) had a recall frequency of 6 months. Despite examining various factors, no direct correlations were found between lesion extension and smoking, diabetes, or periodontal history. However, strong correlations were observed between certain parameters, including mesial and distal lesion height, distal and mesial lesion area, and others. Additionally, relationships were found between distances of elements and lesion widths or residual bone measurements. Oral hygiene levels showed a significant inverse correlation with total lesion size. Furthermore, there was an inverse statistically significant

correlation between lesion extension and the time elapsed since the implant placement, as indicated in Figures 1 and 2.

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Fig 1. The impact of oral hygiene on the peri-implant lesion's progression (mm2).

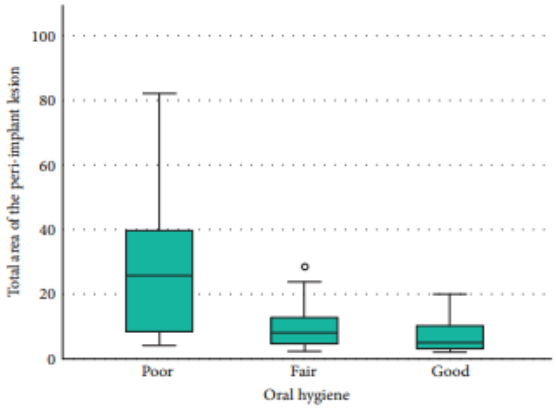
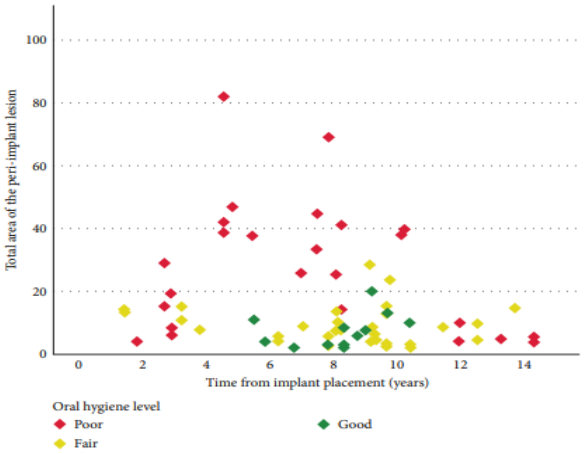


Fig 2. The relationship between the duration of time after implant implantation and the total size of the peri-implant lesion (mm2).



DISCUSSION

Although the present study did not find correlations between risk factors such as diabetes, smoking, and history of periodontitis and peri-implantitis, this lack of correlation may be attributed to the sample size and limited variability of these parameters within the sample. However, existing longitudinal and cross-sectional studies consistently demonstrated that both smoking and a history of periodontitis are indeed risk factors for peri-implantitis. For example, a 10-year cohort study by Karoussis et al.[3] discovered that peri-implantitis developed in 18% of smokers' implants while it only occurred in 6% of non-smokers' implants. Similarly, in another study spanning up to 14 years after implant therapy and involving 218 patients, implants placed in patients with a history of periodontitis were significantly more prone to developing peri-implantitis compared to those in non-periodontal patients.[4] A limitation of this study was the reliance on 2D intraoral radiographs. These radiographs can exhibit geometric distortion and do not provide information on bone resorption patterns in the bucco-lingual dimension. Additionally, they cannot distinguish between buccal and lingual plates.[5] Furthermore, the superimposition of anatomical structures in 2D intraoral radiographs may obscure the true maximum depth of defects and marginal bone levels. While cone beam computed tomography (CBCT) provides detailed three-dimensional information on the configuration and extent of peri-implant defects, Steiger-Ronay et al. recently demonstrated that intraoral radiographs were more accurate than CBCT for measuring the mesiodistal width of these defects.[6]

CONCLUSION

This study using 2D radiographs identified a prevalence of crateriform peri-implant defects, which correlated with hygiene and were detectable on the mesial and distal aspects. For future research and clinical investigation, the use of 3D imaging was recommended when available.

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A Unique Case of Oral White Sponge Nevus and its Diagnostic Challenges

INTRODUCTION

White sponge nevus (WSN) is a rare genetic disorder with an autosomal dominant inheritance pattern, primarily affecting the oral mucosa. This benign condition, known as a genodermatosis, shows high penetrance and significant variability among individuals. Mutations in the cytokeratin 4 and cytokeratin 13 genes disrupt normal keratinization in the mucosa, leading to keratin instability. This resulted in hyperkeratotic lesions on non-keratinized epithelial surfaces. WSN typically presented as symmetric, white, thickened, corrugated plaques that were asymptomatic and predominantly found on the oral mucosa.[1] These plaques commonly appear bilaterally on the buccal mucosa, but can also affect the labial, gingival, and mucous membranes, as well as the floor of the mouth. Differentiating white sponge nevus from other malignant, reactive, familial, and congenital conditions was crucial. Therefore, the diagnosis often relies on the distinct clinical presentation followed by a biopsy of the mucosal lesions. Since the oral manifestations can mimic other conditions, biopsy was essential for accurate diagnosis. Additional investigations, such as microbiological, histological, and immunological tests, were necessary to distinguish these lesions due to their similar clinical appearances. There was no specific treatment for white sponge nevus, making regular monitoring for any changes vital.

It was advised that medical professionals be aware of the distinctive clinical manifestations of white sponge nevus, which can occur in many oral cavity regions and have similarities with other white lesions, some of which may be malignant. Clinical and biopsy exams can be used to provide a diagnosis of the illness. It was important to diagnose oral white sponge nevus as soon as possible in order to prevent unnecessary medical intervention and to allow condition monitoring, especially when other risk factors were present.

Accurate diagnosis was key to avoid delays in treating more serious potentially malignant or malignant conditions.[2] This clinical case aimed to contribute to the existing literature on white sponge nevus. Nonetheless, it was important to consider rare findings in the differential diagnosis of white oral mucosal lesions.

CASE PRESENTATION

A 62-year-old woman presented with chronic, asymptomatic white lesions on the oral mucosa. Over the years, various diagnoses such as hyperkeratosis, candidiasis, and leukoedema were suggested, but no histological examination was performed. Several topical treatments, including chlorhexidine gel, Parodium gel, Gengigel, and Daktarin gel, were tried without success. No similar lesions were reported in her family history. The patient had worn partial upper and lower dentures for several years. The lesions caused no symptoms, except for occasional mild discomfort when consuming acidic or spicy foods. Clinical examination revealed irregular white plaques with well-defined borders and varying densities, located on the buccal mucosa, gingiva, and mucobuccal folds of both jaws. Histological examination of the lesions showed squamous epithelium with hyperparakeratosis and acanthosis, elongated rete ridges, and minimal lymphocytic infiltration in the subepithelial connective tissue (Figure 2(a)). Notable findings included vacuolization of suprabasal keratinocytes and dyskeratotic cells with dense perinuclear eosinophilic condensation, indicating cytokeratin filament aggregation (Figures 2(b) and 2(c)). Histopathological features included: (i) acanthosis and parakeratosis of the squamous epithelium, (ii) extensive vacuolization of suprabasal keratinocytes, and (iii) keratinocytes with dense perinuclear eosinophilic condensation due to intermediate filament aggregation. Although these histological changes were not pathognomonic, they were indicative of white sponge nevus when combined with clinical

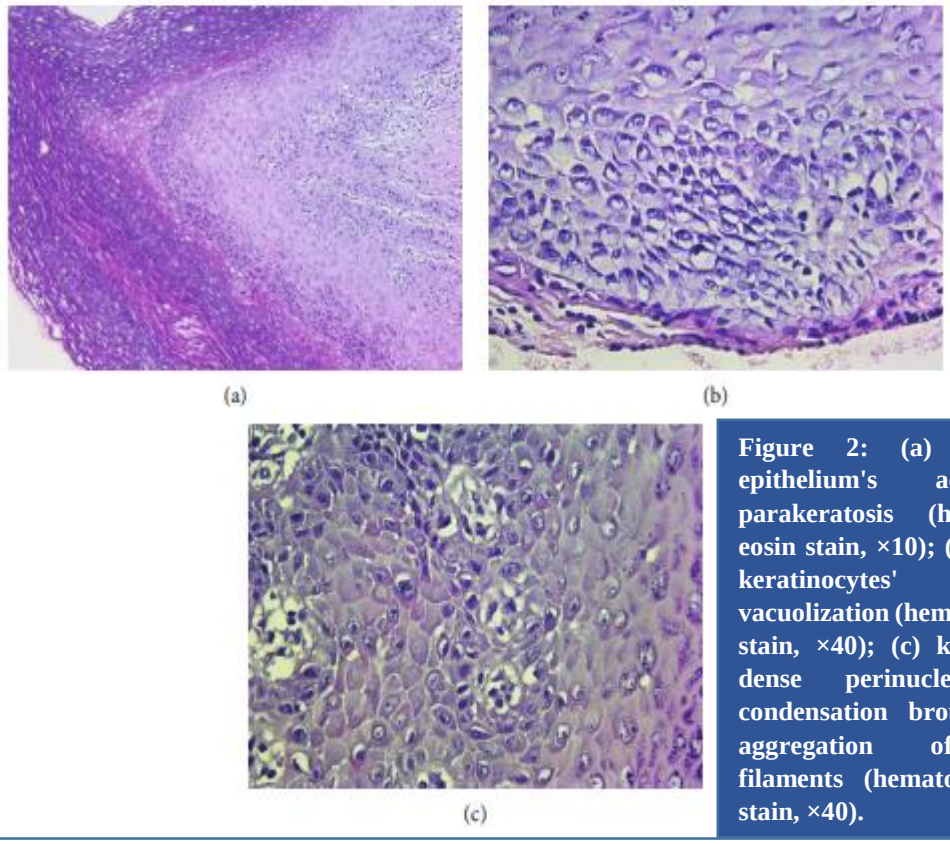

Figure 2: (a) The squamous epithelium's acanthosis and parakeratosis (hematoxylin and eosin stain, ×10); (b) the suprabasal keratinocytes' extensive vacuolization (hematoxylin and eosin stain, ×40); (c) keratinocytes with dense perinuclear eosinophilic condensation brought on by the aggregation of intermediate filaments (hematoxylin and eosin stain, ×40).

features and patient history, making genetic testing unnecessary. Given the benign and asymptomatic nature of the lesions, no treatment was prescribed. The patient was informed about the condition, and guidelines for monitoring and follow-up were provided. Regular follow-up exams were recommended twice a year to monitor for any new complaints.

DISCUSSION

In this case, a 62-year-old woman presented with chronic, asymptomatic white lesions on the oral mucosa. Histological examination revealed squamous epithelium exhibiting hyperparakeratosis and acanthosis. A notable finding was the vacuolization of suprabasal keratinocytes and the presence of dyskeratotic cells with dense perinuclear eosinophilic condensation.[2] Aghbali et al. described the lesions as symmetric, thickened, white, and either corrugated or velvety diffuse plaques. The buccal mucosa was most commonly affected, followed by the labial and gingival mucosa, and the floor of the mouth. Histopathological evaluation showed oral mucosa covered by stratified squamous epithelium with pronounced hyperparakeratosis and significant acanthosis, along with cytoplasmic clearing in the cells of the spinous layer. Additionally, eosinophilic condensation was observed in the perinuclear region of the cells in the superficial layers.[3]

CONCLUSION

This case highlighted the challenges in differentiating between the various white lesions of the oral mucosa. Clinicians should recognize the characteristic clinical features of white sponge nevus, which can appear in multiple locations within the oral cavity and resemble other white lesions, some with malignant potential. Diagnosis can be made through clinical observation and biopsy. Early diagnosis of oral white sponge nevus was essential to prevent unnecessary treatments and to monitor the condition, particularly in the presence of additional risk factors.

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