



Palatal Lesions: A Retrospective Review of 71 Cases

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ABSTRACT

Introduction

The palate is divided structurally into the hard palate (part of the oral cavity) and the soft palate (part of the oropharynx). Palatal lesions can impair the function of an individual, a situation that can affect the social and everyday life of an individual. The lesions observed on the palate can arise from a multitude of etiologies, including infectious processes, neoplastic formations, odontogenic tumors, vascular anomalies, congenital defects, or secondary repercussions of systemic diseases

Methods

Record data for 71 individuals were retrieved from the Laboratory records, histopathology reports, and accompanying clinical request forms of diagnosed documented lesions at the Oral Pathology/Oral maxillofacial department. Age, sex, location of biopsied lesions and duration of lesion as at the time of presentation. Other information added are the type of biopsy done either FNAC/Core needle biopsy or Incisional/ excisional or both to achieve the definitive diagnosis

Data analyzed using IBM SPSS Statistics for Windows, Version 26.0

Results

The study demonstrated a female predominance (59.2%), a male-to-female ratio of 1:1.45. The mean age at presentation was 37.1 ± 18.5 years. The largest proportion of cases occurred in the 31–50-year age group (33.8%). Lesions predominantly involved the hard palate (76.1%), analysis revealed that 62.0% of lesions were benign, while 38.0% were malignant. The mean duration of lesions prior to presentation was 19.2 months, The prevalence of malignancy increased progressively with age, reaching 57.9%

among patients ≥ 51 years, no significant association was observed between sex and lesion type ($p = 0.803$). Pleomorphic adenoma (25.4%) was the most common lesion, squamous cell carcinoma (16.9%) was the most frequent and demonstrated male predominance and a higher mean age at diagnosis

CONCLUSION

The palate can present with different grades of lesions which can be benign or malignant, within different age ranges and gender, as recorded in the study. Pleomorphic adenoma is the commonest benign tumor seen and squamous cell carcinoma was the most common malignant tumors recorded

Keywords: palatal lesion, hard palate, soft palate, pleomorphic adenoma, squamous cell carcinoma

I. INTRODUCTION

The palate forms a critical anatomical and functional interface between the oral and nasal cavities, extending posteriorly to the uvula (1–3). Histologically, its oral surface is lined by stratified squamous epithelium, reflecting its adaptation to mechanical and functional demands (1). Embryologically, the palate originates from the first pharyngeal arch and completes its development between the 10th and 12th weeks of intrauterine life (2,4). Structurally, it is divided into the hard palate, which constitutes part of the oral cavity, and the soft palate, which forms part of the oropharynx (5). Functionally, the hard palate plays a pivotal role in mastication and deglutition, while both the hard and soft palates contribute significantly to speech articulation through their interactions with the tongue (2,6).



Despite these specialized roles, the palatal mucosa, like the oral mucosa in general, serves as a protective barrier yet remains susceptible to a wide spectrum of pathological conditions ranging from innocuous lesions to benign and malignant neoplasms. Importantly, palatal lesions can significantly compromise essential functions, resulting in impaired speech and difficulty in feeding (1,7). In addition to functional deficits, patients may experience pain, halitosis, dysesthesia, or xerostomia, all of which can adversely affect quality of life and social interactions (4,8).

Within clinical practice, palatal lesions frequently present as diagnostic challenges due to their heterogeneous clinical manifestations. These lesions may appear as swellings with variable consistency, from soft to firm or hard, and may be unilateral or bilateral, as well as median or paramedian in location (2,5,9). Furthermore, the palatal mucosa may present with painful infectious ulcers or asymptomatic malignant ulcers, complicating early clinical differentiation. The etiological spectrum is broad, encompassing infectious processes, reactive conditions, benign and malignant neoplasms, odontogenic tumors, vascular anomalies, congenital defects, and manifestations of systemic diseases (2,4,5).

Given this diversity, accurate diagnosis requires a multimodal approach integrating clinical examination, radiographic imaging, cytological evaluation, and histopathological confirmation. Advanced imaging modalities such as non-contrast computed tomography (NCCT) and cone-beam computed tomography (CBCT) are particularly valuable for assessing hard-tissue involvement, whereas magnetic resonance imaging (MRI) remains the gold standard for soft-tissue evaluation (7,8). Radiographically, lesions may present as radiolucent, radiopaque, or mixed entities. Definitive diagnosis, however, relies on histopathological analysis obtained through fine-needle aspiration cytology, core biopsy, or incisional/excisional biopsy (7,10,11).

However, despite the clinical importance of palatal lesions, there remains a notable gap in the literature. Most existing studies either focus narrowly on specific lesion types or combine palatal lesions with broader oral cavity pathologies, thereby limiting site-specific insights. Comprehensive analyses that integrate demographic characteristics, anatomical distribution, clinical presentation, and histopathological diagnosis of palatal lesions within a single cohort are relatively scarce, particularly in resource-constrained settings. This lack of consolidated data poses challenges for clinicians in establishing accurate differential diagnoses,

anticipating disease patterns, and optimizing management strategies. Accordingly, there is a need for a systematic evaluation of palatal lesions that not only categorizes their histopathological spectrum but also correlates these findings with key clinical and demographic variables. Such an approach would enhance diagnostic precision, improve clinicopathological concordance, and provide context-specific epidemiological data that may inform clinical decision-making.

Therefore, the present study aims to address this gap by providing a comprehensive retrospective analysis of palatal lesions, encompassing neoplastic (benign and malignant), inflammatory, and reactive entities. Specifically, the study evaluates the distribution of these lesions in relation to patient age, sex, anatomical location (hard versus soft palate), and duration at presentation, while also examining the relationship between clinical and histopathological diagnoses. By offering an integrated clinicopathological perspective, this study seeks to contribute novel, site-specific evidence to the existing body of oral pathology literature.

II. METHODS

Study Design and Setting

This retrospective cross-sectional study analyzed histopathologically diagnosed palatal lesions recorded at the Oral Pathology and Oral and Maxillofacial Surgery departments of a tertiary healthcare institution. The study period spanned [insert years], during which all eligible cases involving the palate were reviewed.

Case Selection and Eligibility Criteria

Cases were identified from laboratory registers, archived histopathology reports, and corresponding clinical request forms. Inclusion criteria comprised all patients with a definitive histopathological diagnosis of a palatal lesion. Lesions included a broad spectrum of conditions such as neoplastic (benign and malignant; hard or soft tissue origin), infectious, and reactive lesions.

Exclusion criteria included:

- Cases with incomplete clinical or histopathological data
- Poorly preserved or inadequate biopsy specimens
- Cases lacking a definitive diagnosis

A total of 71 cases meeting the inclusion criteria were included in the final analysis.

Data Extraction

Relevant demographic and clinicopathological data were extracted using a standardized data collection form. Variables recorded included:

- Age at diagnosis (categorized into predefined age groups)



- Sex
- Anatomical location of lesion (classified as hard palate or soft palate)
- Duration of lesion before presentation
- Type of biopsy performed (fine-needle aspiration cytology [FNAC], core needle biopsy, incisional biopsy, excisional biopsy, or a combination)
- Clinical provisional diagnosis as documented on the request form
- Final histopathological diagnosis

Classification of Lesions

Lesions were categorized into three major groups based on histopathological diagnosis:

- Neoplastic lesions (benign and malignant; including both hard and soft tissue tumors)
- Infectious lesions
- Reactive lesions

Classification followed standard diagnostic criteria consistent with established oral pathology guidelines.

Histopathological Review and Examiner Calibration

To ensure diagnostic accuracy and reproducibility, all available histopathological slides were independently reviewed by two experienced oral pathologists blinded to the initial diagnosis and clinical information. In cases where archived slides were unavailable, original histopathology reports were used. Before data collection, examiner calibration was conducted using a subset of randomly selected cases not included in the final sample. Inter-examiner reliability was assessed using Cohen's kappa coefficient, with a value ≥ 0.80 considered indicative of excellent agreement. Discrepancies between examiners during the main review were resolved through joint re-evaluation and consensus. Where consensus could not be reached, a third senior pathologist provided a final adjudication.

Outcome Measures

The primary outcome was the distribution of palatal lesions according to histopathological diagnosis. Secondary outcomes included concordance between clinical and histopathological diagnoses, as well as associations between lesion type and demographic or clinical variables.

ETHICAL CONSIDERATIONS

Ethical authorization for this research was secured from the Institutional Review Board of the Lagos State University Teaching Hospital. This

investigation conformed to the ethical principles delineated in the Declaration of Helsinki. Given that this research entailed a retrospective examination of pre-existing medical records, the ethics committee of our institution granted a waiver for informed consent. Before the analysis of the data, all patient identifiers were expunged to maintain the confidentiality of the information.

ANALYSIS

Data analyzed using IBM SPSS Statistics for Windows, Version 26.0 (IBM Corp., Armonk, NY, USA). Demographic characteristics of patients and histopathological features were displayed with descriptive statistics. Continuous variables such as age and duration of lesions at presentation, were reported as means with standard deviations and ranges, where required. Categorical variables, including sex, age group, lesion location, histopathological diagnosis were presented as frequencies and percentages. Associations between categorical variables and the diagnosed lesions were assessed using Pearson's chi-square test and Fisher's exact test were necessary. Multivariate logistic regression analysis was performed to identify independent predictors of palatal tumors. Statistical significance was set at $p < 0.05$ for all analyses.

III. RESULTS

TABLE 1

This table summarizes the baseline demographic and clinical characteristics of the 71 patients diagnosed with palatal lesions. The study demonstrated a female predominance (59.2%), a male-to-female ratio of 1:1.45. The mean age at presentation was 37.1 ± 18.5 years, with a wide distribution ranging from childhood to advanced age (6–86 years). The largest proportion of cases occurred in the 31–50-year age group (33.8%). Lesions predominantly involved the hard palate (76.1%), consistent with the anatomical distribution of minor salivary glands. FNAC assessment was done in (63.4%) of the study cohort, while (62.0%) of the study population has both FNAC and Biopsy (either incisional or excisional) done. Histopathological analysis revealed that 62.0% of lesions were benign, while 38.0% were malignant. Incisional biopsy was slightly more frequent than excisional biopsy, reflecting diagnostic evaluation of larger or suspicious lesions. The mean duration of lesions prior to presentation was 19.2 months, with nearly half of patients presenting within the first year.

Demographic and Clinical Characteristics of Patients with Palatal Lesions (N = 71)

Characteristic	Category	Frequency (n)	Percentage (%)
Age (years)	Mean \pm SD	37.1 \pm 18.5	
	Range	6 – 86	



Age Groups	0–18 years	11	15.5
	19–30 years	17	23.9
	31–50 years	24	33.8
	≥51 years	19	26.8
Sex	Male	29	40.8
	Female	42	59.2
Anatomical Site	Hard palate	54	76.1
	Soft palate	17	23.9
Histopathologic Category	Benign lesions	44	62.0
	Malignant lesions	27	38.0
Biopsy Procedure	Excisional biopsy	31	43.7
	Incisional biopsy	33	46.5
	FNAC	45	63.4
	FNAC + Biopsy	44	62.0
Duration of Symptoms	<6 months	21	29.6
	6–12 months	18	25.4
	1–2 years	14	19.7
	>2 years	18	25.4
	Mean ± SD (months)	19.2 ± 15.1	
	Range (months)	3 – 48	

Male:Female ratio | 1 : 1.45

DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF PATIENTS WITH PALATAL LESIONS (N=71)

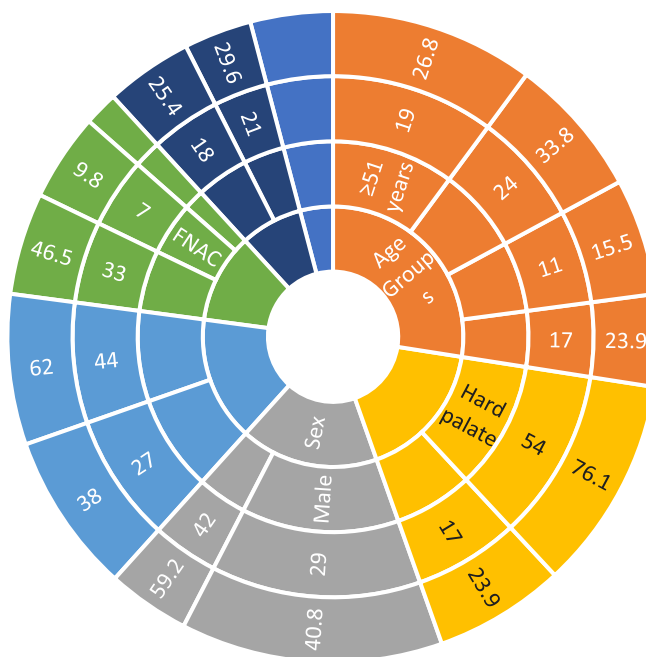




TABLE 2: This table compares demographic and clinical characteristics between benign and malignant palatal lesions. Malignant lesions occurred in significantly older patients (mean age 43.8 years) compared with benign lesions (33.1 years; $p = 0.015$). The prevalence of malignancy increased progressively with age, reaching 57.9% among patients ≥ 51 years. No significant association was observed between sex and lesion type ($p = 0.803$). Although malignancies were more frequent on the hard palate (42.6%), the difference compared with soft palate lesions did not reach statistical significance ($p = 0.082$). Notably, malignant lesions demonstrated significantly shorter symptom duration prior to presentation ($p < 0.001$), reflecting their more aggressive clinical course

TABLE 2: COMPARISON OF BENIGN AND MALIGNANT PALATAL LESIONS BY DEMOGRAPHIC AND CLINICAL VARIABLES

Variable	Benign (n=44)	Malignant (n=27)	Total	Test Statistic	p-value
Age (years)				$t = 2.49$	0.015
Mean \pm SD	33.1 \pm 16.8	43.8 \pm 19.0	37.1 \pm 18.5		
Age group – n (%)				$\chi^2 = 7.91$	0.048
0–18	8 (72.7)	3 (27.3)	11		
19–30	13 (76.5)	4 (23.5)	17		
31–50	15 (62.5)	9 (37.5)	24		
≥ 51	8 (42.1)	11 (57.9)	19		
Sex – n (%)				$\chi^2 = 0.06$	0.803
Male	18 (62.1)	11 (37.9)	29		
Female	26 (61.9)	16 (38.1)	42		
Anatomical site – n (%)				$\chi^2 = 3.02$	0.082
Hard palate	31 (57.4)	23 (42.6)	54		
Soft palate	13 (76.5)	4 (23.5)	17		
Duration (months)				$t = 5.51$	<0.001
Mean \pm SD	26.1 \pm 14.8	8.1 \pm 7.8	19.2 \pm 15.1		

TABLE 3: This table presents the histopathological distribution of palatal lesions. **Pleomorphic adenoma (25.4%)** was the most common lesion overall and showed strong female predominance. Among malignant tumors, **squamous cell carcinoma (16.9%)** was the most frequent and demonstrated male predominance and a higher mean age at diagnosis. Malignant tumors occurred predominantly on the **hard palate**, whereas pleomorphic adenoma showed a relatively higher proportion on the soft palate. The data highlight the diverse histopathological spectrum of palatal lesions and the importance of biopsy confirmation.

Table:3 Histopathological Spectrum of Palatal Lesions

Diagnosis	n	%	Mean Age \pm SD	Male n (%)	Female n (%)	Hard palate n (%)	Soft palate n (%)
Benign lesions (n=44)							
Pleomorphic adenoma	18	25.4	33.8 \pm 14.7	3 (16.7)	15 (83.3)	8 (44.4)	10 (55.6)
Pyogenic granuloma	4	5.6	33.0 \pm 18.2	0	4 (100)	4 (100)	0
Chronic granulation tissue	3	4.2	35.3 \pm 18.6	3 (100)	0	3 (100)	0
Fibroepithelial hyperplasia	2	2.8	23.5 \pm 21.9	0	2	2	0
Osteoma	2	2.8	20.5 \pm 3.5	2	0	2	0
Other benign lesions	15	21.1	–	–	–	–	–
Malignant lesions (n=27)							
Squamous cell carcinoma	12	16.9	52.6 \pm 20.1	8 (66.7)	4 (33.3)	11 (91.7)	1 (8.3)
Mucoepidermoid carcinoma	6	8.5	47.8 \pm 26.8	3	3	5	1
Adenoid cystic carcinoma	5	7.0	44.6 \pm 14.4	1	4	4	1
Other malignant lesions	4	5.6	–	–	–	–	–



Total	71	100	37.1 ± 18.5	29	42	54	17
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TABLE 4: Duration of Symptoms at Presentation by Demographic and Clinical Variables

Variable	N	Mean Duration ± SD (months)	Median	Range	Test Statistic	p-value
Overall	71	19.2 ± 15.1	12	3–48		
Lesion type					t = 5.51	<0.001
Benign	44	26.1 ± 14.8	24	3–48		
Malignant	27	8.1 ± 7.8	6	3–36		
Age group					F = 1.42	0.245
0–18	11	16.5 ± 15.1	12	3–48		
19–30	17	23.5 ± 16.9	24	3–48		
31–50	24	17.3 ± 14.4	12	3–48		
≥51	19	18.9 ± 14.7	12	3–48		
Sex					t = 0.51	0.609
Male	29	20.2 ± 16.1	12	3–48		
Female	42	18.5 ± 14.5	12	3–48		

TABLE 4: Duration of symptoms prior to diagnosis differed significantly between benign and malignant lesions. Patients with benign tumors presented after a **mean duration of 26.1 months**, compared with **8.1 months for malignant lesions** ($p < 0.001$). No statistically significant differences were observed across age groups, sex, or anatomical location. The shorter duration associated with malignant lesions likely reflects their aggressive biological behavior and symptomatic presentation prompting earlier clinical evaluation.

TABLE 5: Concordance Between Clinical and Histopathological Diagnosis

Category	Exact Match n (%)	Partial Match n (%)	Mismatch n (%)	Total
Overall	26 (36.6)	16 (22.5)	29 (40.8)	71
Benign lesions	18 (40.9)	10 (22.7)	16 (36.4)	44
Malignant lesions	8 (29.6)	6 (22.2)	13 (48.1)	27
Hard palate	18 (33.3)	13 (24.1)	23 (42.6)	54
Soft palate	8 (47.1)	3 (17.6)	6 (35.3)	17

Clinical diagnosis demonstrated moderate concordance with histopathological findings. Overall, exact agreement was achieved in 36.6% of cases, whereas 40.8% showed diagnostic mismatch, emphasizing the limitations of clinical assessment alone. Diagnostic accuracy was slightly higher for

benign lesions compared with malignant lesions. Soft palate lesions exhibited better clinical diagnostic accuracy than hard palate lesions. These findings highlight the essential role of histopathological examination as the diagnostic gold standard for palatal lesions

TABLE 6: Correlation Analysis Between Age, Sex, Duration, and Histopathological Category

Variable	Age	Sex	Duration	Lesion Type
Age	1.00	0.11	-0.24	0.32
Sex	0.11	1.00	-0.07	0.02
Duration	-0.24	-0.07	1.00	-0.52
Lesion Type (Malignant)	0.32	0.02	-0.52	1.00

Pearson correlation analysis demonstrated a moderate positive association between increasing age and malignant histopathology ($r = 0.32$). Duration of symptoms showed a moderate negative correlation with malignancy ($r = -0.52$), indicating that malignant lesions tended to present earlier than

benign lesions. Correlations between sex and other variables were weak and not statistically meaningful. These findings suggest that age and symptom duration are more influential predictors of malignancy than sex in palatal lesions.

TABLE 7: Multivariable Logistic Regression Identifying Predictors of Malignant Palatal Lesions

A. Adjusted Model

Variable	Adjusted OR	95% CI	p-value
Age (per 10-year increase)	1.53	1.09 – 2.15	0.014



Male sex	1.28	0.36 – 4.54	0.702
Hard palate location	3.89	0.78 – 19.41	0.097
Duration (per month)	0.85	0.78 – 0.93	<0.001

Multivariable logistic regression analysis identified age and duration of symptoms as independent predictors of malignant palatal lesions. Each 10-year increase in age was associated with a 53% increase in the odds of malignancy. Conversely, longer symptom

duration significantly reduced the likelihood of malignancy, reflecting the rapid clinical course of aggressive tumors. Hard palate location demonstrated a trend toward higher malignancy risk but did not reach statistical significance.

TABLE 8: Diagnostic Accuracy of Fine Needle Aspiration Cytology (FNAC) Compared to Histopathology

Metric	Value
Total Cases with Definitive FNAC Result	45
True Positive	18
True Negative	20
False Positive	3
False Negative	4
Sensitivity	81.8%
Specificity	87.0%
Positive Predictive Value (PPV)	85.7%
Negative Predictive Value (NPV)	83.3%
Diagnostic Accuracy	84.4%

Table 8 evaluates the diagnostic performance of FNAC in distinguishing benign from malignant palatal lesions using histopathology as the reference standard. Among 45 cases with definitive FNAC results, FNAC demonstrated a sensitivity of 81.8% and a specificity of 87.0%, with an overall diagnostic accuracy of 84.4%. There were 3 false-positive cases (FNAC malignant, histopathology benign) and 4 false-negative cases (FNAC benign, histopathology malignant). These findings indicate that FNAC is a reliable adjunctive diagnostic tool for palatal lesions, though histopathology remains essential for definitive diagnosis.

IV. DISCUSSION

The palate constitutes a structurally and histologically complex region within the oral cavity, characterized by a heterogeneous composition of epithelial, connective, glandular, and osseous tissues, which collectively account for the wide spectrum of pathological entities observed in this anatomical site (4,9,12,13). In the present study, this diversity was reflected in the broad range of lesions identified, reinforcing the diagnostic complexity associated with palatal pathology. Accurate identification of these lesions remains a significant challenge for clinicians, particularly because clinical manifestations alone often provide limited diagnostic specificity (2,6). Consistent with existing literature, clinical features were of limited utility in distinguishing palatal malignancies and certain reactive lesions, especially in the case of submucosal lesions that are not readily

detectable through routine visual inspection or palpation (2,9). These findings underscore the critical importance of adjunctive diagnostic modalities and histopathological confirmation in achieving definitive diagnosis. A comprehensive understanding of palatal lesions, therefore, requires not only clinical acumen but also detailed knowledge of the region's anatomical complexity, including the distribution of minor salivary glands and associated structures (2).

Beyond diagnostic challenges, palatal lesions impose a substantial functional and psychosocial burden. In this study, lesions were associated with impairment of speech and mastication, as well as symptoms such as pain, restricted mouth opening, halitosis, dysesthesia, and xerostomia (2,9). These manifestations can significantly affect daily activities and quality of life, further emphasizing the importance of early detection and appropriate management. With respect to demographic patterns, the 0–18-year age group exhibited the lowest frequency of cases. This suggests that although palatal lesions may occur across all age groups, their occurrence in younger individuals is comparatively less frequent. This pattern may be explained by reduced exposure to established etiological factors such as trauma, alcohol consumption, cigarette smoking, infections, systemic diseases, and genetic susceptibility (1,14).

The observed parity in gender distribution in this study is consistent with reports suggesting comparable exposure of both males and females to these risk factors (1,15,16). However, this finding



should be interpreted cautiously, as the present study did not directly evaluate etiological variables, thereby limiting the ability to determine the relative contribution of specific risk factors. Furthermore, as a referral-based study, the sample may be subject to selection bias and may not fully represent the true population distribution of palatal lesions.

Anatomically, the predominance of lesions in the hard palate observed in this study can be attributed to its structural composition and the presence of numerous minor salivary glands and odontogenic-related tissues (1,10,15). These anatomical features provide a substrate for the development of a wide range of lesions. In line with this, benign neoplasms constituted the majority of cases, with pleomorphic adenoma emerging as the most prevalent lesion (24.5%). This finding is consistent with existing evidence that benign tumors account for a substantial proportion of minor salivary gland neoplasms (15). The predilection of minor salivary gland tumors for the posterior hard palate and soft palate observed in this study reflects the distribution of these glands within the palatal region (1,14,15). Consequently, the soft palate also demonstrated increased susceptibility to pleomorphic adenoma, further supporting the established association between glandular density and tumor occurrence.

Malignant lesions, although less frequent, remain clinically significant. Cancer of the palate accounts for approximately 2% of head and neck mucosal malignancies (1,7). In the present study, squamous cell carcinoma was the most common malignant lesion, accounting for 16.9% of cases, which is consistent with findings from both local and international studies (1,17–19). Additionally, malignant lesions were associated with a higher mean age compared to benign lesions, with squamous cell carcinoma occurring predominantly in older individuals. In contrast, mucoepidermoid carcinoma demonstrated a predilection for younger and middle-aged patients, corroborating previous reports (18,20).

A notable finding of this study was the significant difference in duration of presentation between benign and malignant lesions. Patients with benign neoplasms presented after a longer duration (mean: 26.1 months), whereas those with malignant lesions presented earlier (mean: 8.1 months; $p < 0.001$). This likely reflects the more aggressive biological behavior and symptomatic nature of malignant lesions, prompting earlier clinical consultation. The moderate negative correlation between symptom duration and malignancy ($r = -0.52$) further supports this observation (19,21). Collectively, these findings suggest that age and

duration of symptoms may serve as more reliable predictors of malignancy than sex in palatal lesions.

In terms of diagnostic accuracy, clinical diagnosis demonstrated only moderate concordance with histopathological findings. Exact agreement was observed in 36.6% of cases, while 40.8% showed diagnostic mismatch, highlighting the limitations of clinical assessment alone (7,10,22). Diagnostic accuracy was slightly higher for benign lesions compared to malignant lesions, and better for soft palate lesions than hard palate lesions. These findings reaffirm the indispensable role of histopathology as the gold standard for diagnosis (16,23). Fine-needle aspiration cytology (FNAC) proved to be a valuable adjunctive diagnostic tool in this study. With a sensitivity of 81.8%, specificity of 87.0%, and overall diagnostic accuracy of 84.4%, FNAC findings were consistent with previously reported ranges (22,24). Its advantages—including minimal invasiveness, cost-effectiveness, rapid turnaround time, and suitability for outpatient settings—make it a practical preoperative diagnostic modality. However, the occurrence of false-positive and false-negative cases highlights its limitations and reinforces the need for confirmatory histopathological examination (22,24,25). Open surgical biopsy therefore remains the definitive diagnostic approach, particularly for suspicious lesions of the oral cavity, oropharynx, and nasopharynx (11,23,25), although minimally invasive techniques may be preferred in selected clinical scenarios.

Other lesions observed in smaller numbers included inflammatory and infectious conditions, which are known to elicit reactive mucosal responses in the palate (1,2). Chronic pyogenic granuloma, a common benign lesion, demonstrated demographic characteristics consistent with previous reports, including occurrence in the second to fourth decades and a female predilection (2). Fibroepithelial hyperplasia was also identified, presenting as a painless firm swelling, further illustrating the diversity of reactive lesions affecting the palate (2). Among bony lesions, osteoma and palatal torus were documented. These benign lesions are often asymptomatic and may have genetic or environmental etiological influences. Palatal torus, in particular, demonstrated a female predilection and was most commonly observed in individuals aged 10–30 years, consistent with existing literature (2).

V. CONCLUSION

Palatal lesions encompass a wide range of pathological conditions, from benign to malignant, affecting people of all ages and both genders. This study highlights the predominance of benign lesions, with pleomorphic adenoma being the most common



tumor, while squamous cell carcinoma is the most frequent malignant lesion. The findings emphasize the diagnostic difficulties associated with palatal lesions, the limited reliability of clinical examination alone, and the essential role of histopathological assessment in determining definitive diagnoses. Additionally, factors like patient age and duration of symptoms can offer valuable clinical clues in distinguishing between benign and malignant lesions. Overall, this study adds to the growing evidence on palatal pathology by presenting a comprehensive clinicopathological perspective, while also stressing the importance of early diagnosis, multidisciplinary approach, and the need for larger-scale studies to enhance understanding and improve patient outcomes.

References

- [1]. Aydil U, Kizil Y, Bakkal FK, Köybaşıoğlu A, Uslu S. Neoplasms of the hard palate. *Journal of Oral and Maxillofacial Surgery*. 2014 Mar;72(3):619–26. doi:10.1016/j.joms.2013.08.019 PubMed PMID: 24139293.
- [2]. Chatterjee S. Swellings of the Palate: A Review. *Indian Journal of Forensic Medicine & Toxicology*. 2020 Dec. Report.
- [3]. Preethi A Poonja APSKNBKHVSA. An unusual case of neural palatal swelling. 2017 Sep. Report.
- [4]. Ravikumar S, Saranya V, Chandramohan K. Palatal swelling in a young adult. *Journal of Oral and Maxillofacial Pathology*. 2019 Feb 1;23(4):S27–31. doi:10.4103/jomfp.JOMFP_192_18
- [5]. Klieb HB, Duchnay M, Skeete D, Leong IT, Blackstein ME. Painful palatal swelling. *The Lancet*. 2010;375(9721):1224. doi:10.1016/S0140-6736(10)60053-0 PubMed PMID: 20362816.
- [6]. Bukhari AF, Magnuson BE, Desai B, Pilichowska M, Lerman MA. Diffuse palatal swelling. *Oral Surg Oral Med Oral Pathol Oral Radiol*. 2021 Mar 1;131(3):269–75. doi:10.1016/j.oooo.2019.12.003 PubMed PMID: 31948919.
- [7]. Kato H, Kanematsu M, Makita H, Kato K, Hatakeyama D, Shibata T, et al. CT and MR imaging findings of palatal tumors. *European Journal of Radiology*. 2014. doi:10.1016/j.ejrad.2013.11.028 PubMed PMID: 24377674.
- [8]. von Stempel C, Morley S, Beale T, Otero S. Imaging of palatal lumps. *Clinical Radiology*. W.B. Saunders Ltd; 2017. p. 97–107. doi:10.1016/j.crad.2016.10.007 PubMed PMID: 27986264.
- [9]. Ansari A, Thomas A. Soft palate mass: An unusual case. *Otolaryngology Case Reports*. 2019 Jun 1;11. doi:10.1016/j.xocr.2019.100114
- [10]. Ishii J NHWTYM and E. Ultrasonography in the diagnosis of palatal tumors. Vol. 87. 1999 Jan;87:39–43.
- [11]. Asai S, Nakamura S, Kuribayashi A, Sakamoto J, Yoshino N, Kurabayashi T. Effective combination of 3 imaging modalities in differentiating between malignant and benign palatal lesions. *Oral Surg Oral Med Oral Pathol Oral Radiol*. 2021 Feb 1;131(2):256–64. doi:10.1016/j.oooo.2020.07.011 PubMed PMID: 32861665.
- [12]. Casu C, Botta R. Particular swelling on the palate. *Pan African Medical Journal. African Field Epidemiology Network*; 2018. doi:10.11604/pamj.2018.30.280.16529 PubMed PMID: 30637065.
- [13]. Scheller K, Becker S, Scheller C. Symmetric palatal swelling as the first clinical manifestation of a mantle cell non-Hodgkin's lymphoma: A case report and review of literature. *Journal of Oral and Maxillofacial Pathology*. 2011. p. 311–5. doi:10.4103/0973-029X.86703
- [14]. Mariz BALA, do Socorro Queiroz Feio P, Roza ALOC, de Andrade BAB, Agostini M, Romañach MJ, et al. Clinical predictors of malignancy in palatal salivary gland tumors. *Oral Dis*. 2019 Nov 1;25(8):1919–24. doi:10.1111/odi.13181 PubMed PMID: 31444932.
- [15]. Debnath SC, Saikia AK, Debnath A. Pleomorphic Adenoma of the Palate. *J Maxillofac Oral Surg*. 2010 Dec 1;9(4):420–3. doi:10.1007/s12663-010-0119-3
- [16]. Brajdi D, Virag M, Manojlović S, Luković I, Frančeski D, Biočić J, et al. Mucoepidermoid Carcinoma Misdiagnosed as Palatal Odontogenic Infection: An Overview on the Differential Diagnosis of Palatal Lesions. *Coll. Antropol*. 2010. Report.
- [17]. Hammouda Y, Halily S, Oukessou Y, Rouadi S, Abada R, Roubal M, et al. Malignant tumors of the hard palate: Report of 4 cases and review of the literature. *International Journal of Surgery*



- Case Reports. Elsevier Ltd; 2021. p. 228–34. doi:10.1016/j.ijscr.2020.12.024
- [18]. Gambhir A, Deo JK. Palatal Swellings: A Proposed Classification and a Case Report of Pleomorphic Adenoma of Minor Salivary Gland of the Palate. *J Maxillofac Oral Surg.* 2023 Sep 1;22(3):538–42. doi:10.1007/s12663-022-01808-0
- [19]. Adamu ZA, Mohammed A. Carcinoma Ex-Pleomorphic Adenoma Arising within a Palatal Minor Salivary Gland: A Case Report and Review of Literature. *Journal of West African College of Surgeons.* 2025 Sep 6. doi:10.4103/jwas.jwas_196_24
- [20]. K G G Kwedi, M D, Y D, B T, Sm N, NF K, et al. Pleomorphic Adenoma of the Palate with Specific Management: A Case Presentation. *EAS Journal of Dentistry and Oral Medicine.* 2020 Oct 30;2(5):148–51. doi:10.36349/easjdom.2020.v02i05.003
- [21]. Kim HY, Jung EK, Lee DH, Yoon TM, Lee JK, Lim SC. Clinical difference between benign and malignant tumors of the hard palate. *European Archives of Oto-Rhino-Laryngology.* 2020 Mar 1;277(3):903–7. doi:10.1007/s00405-019-05759-0 PubMed PMID: 31828419.
- [22]. Gillani M, Akhtar F, Ali Z, Naz I, Atique M, Khadim MT. Diagnostic accuracy, sensitivity, specificity and positive predictive value of fine needle aspiration cytology (FNAC) in intra oral tumors. *Asian Pacific Journal of Cancer Prevention.* 2012;13(8):3611–5. doi:10.7314/APJCP.2012.13.8.3611
- [23]. Sultan S, Ahsan AI, Hurain KN, Mannan M, Hossain S, Akter N. The Sensitivity and Specificity of Fine Needle Aspiration Cytology (FNAC) and Histopathology for the Diagnosis of Thyroid Nodule. 2023.
- [24]. Ramírez-Pérez F, González-García R, Hernández-Vila C, Monje-Gil F, Ruiz-Laza L. Is fine-needle aspiration a reliable tool in the diagnosis of malignant salivary gland tumors? *Journal of Cranio-Maxillofacial Surgery.* 2017 Jul 1;45(7):1074–7. doi:10.1016/j.jcms.2017.03.019 PubMed PMID: 28501453.
- [25]. Arshad S. “Which is the Superior Approach for Diagnosing Cervical Lymphadenopathy: Fine Needle Aspiration Cytology (FNAC) or Open Biopsy? A Brief Review.” *Biomed J Sci Tech Res.* 2022 Mar 16;42(4). doi:10.26717/bjstr.2022.42.006784