IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Tumours Of Minor Salivary Glands In Rare Sites: A Case Series

A case series from the Department of Radiation Oncology, Safdarjung Hospital, New Delhi, India

[1]Dr. Apurv Shroff, [2]Dr. Jaspreet Kaur, [3]Dr. Navaudhyam R, [4]Dr. Anu Agrawal
[1]Third Year Postgraduate Resident, [2]Professor, [3]Senior Resident, [4]Senior Resident
[1]Department of Radiation Oncology,
[1]Safdarjung Hospital, New Delhi, India

Abstract: This study has been undertaken to investigate the minor salivary gland neoplasms arising from uncommon anatomical regions such as the parapharyngeal space and buccal mucosa are exceedingly rare. Their clinical detection is often delayed due to non-specific symptoms and concealed locations, frequently resulting in late-stage diagnosis.[1][2] Acinic cell carcinoma (ACC), more commonly arising in the parotid gland, and adenoid cystic carcinoma (AdCC), recognized for its perineural invasion and protracted course, are infrequent in these sites.[3][4][5] Awareness of their varied presentations is essential to guide timely diagnosis and appropriate management.

Case Summary: The first case features a 50-year-old woman with progressive dysphagia, later diagnosed with ACC in the left parapharyngeal space. MRI revealed a well-defined enhancing mass, and histopathology confirmed the diagnosis with immunoreactivity for SOX10, DOG1, and PanCK.[6] Surgical resection was curative. The second case involved a 46-year-old woman with a gradually enlarging cheek mass, identified as Grade II AdCC of the buccal mucosa with perineural invasion and involved margins.[5] She was advised adjuvant chemoradiation following surgical excision.

Conclusion: These cases highlight the diagnostic challenges associated with minor salivary gland tumors in atypical regions.[1][2] Multimodal imaging and histopathological evaluation remain pivotal, while complete surgical excision is central to management.[3] Adjuvant therapy may be necessary depending on histological features and margin status.[5] Sustained follow-up is imperative due to the risk of delayed recurrence.[5]

Index terms - Acinic Cell Carcinoma, Parapharyngeal mass, Adenoid Cystic Carcinoma, Minor Salivary Gland

1. INTRODUCTION

Salivary gland tumors, although uncommon, encompass a wide pathological spectrum, arising from either major or minor salivary glands.[3] The minor salivary glands, diffusely distributed across the aerodigestive tract mucosa, rarely give rise to malignancies, and their tumors are often overlooked in differential diagnoses due to their uncommon locations and subtle clinical presentations.[2]

The parapharyngeal space, a complex anatomical area deep within the neck, and the buccal mucosa are rare sites for salivary gland malignancies.[1][2] Diagnosis is frequently delayed due to either their deep-seated location or non-specific symptoms.[1] We report two rare presentations of minor salivary gland tumors namely, acinic cell carcinoma (ACC) and adenoid cystic carcinoma (AdCC), which represent distinct clinicopathological profiles.[3][4] This is also to emphasize the importance of early clinical suspicion, imaging, histopathological confirmation, and tailored treatment strategies. [5][6]

2. CASE SUMMARIES

Two variants described in the following cases - acinic cell carcinoma (ACC) and adenoid cystic carcinoma (AdCC), are very different from a histopathological perspective.[3][4] ACC, typically found in the parotid, may rarely originate from ectopic minor salivary glands such as those in the parapharyngeal space.[1] It is usually low-grade but can pose surgical challenges when deeply situated.[1][4] In contrast, AdCC, though slow-growing, is notorious for local recurrence, perineural spread, and distant metastasis.[5]

2.1. Case 1: Acinic Cell Carcinoma of the Parapharyngeal Space

A 50-year-old woman presented with progressive difficulty swallowing solids for approximately one year, which recently extended to semisolids. Swallowing was occasionally uncomfortable but not painful, and there were no associated systemic complaints such as fever, weight loss, or fatigue.

Oral examination and indirect laryngoscopy revealed no mucosal lesions or structural abnormalities. Contrast enhanced-MRI imaging of the face and neck, as shown in figure 1, demonstrated a heterogeneously enhancing lesion in the left parapharyngeal space, measuring approximately 3.1 cm in all dimensions. The lesion displaced the adjacent pterygoid muscles and mildly indented the pterygoid fossa. A few ipsilateral cervical lymph nodes were observed, the largest being 1.4 cm in short-axis diameter.

Histopathological examination of a biopsy as can be seen in figure 2 revealed cells with serous acinar differentiation, consistent with acinic cell carcinoma. Figure 3 shows that immunohistochemistry confirmed positivity for SOX10, DOG1, and PanCK. A transcervical surgical excision was undertaken, and the final histopathological assessment corroborated the diagnosis. Lymph nodes were uninvolved, and the patient's postoperative course was uneventful. She continues to be monitored on clinical and radiological follow-up.

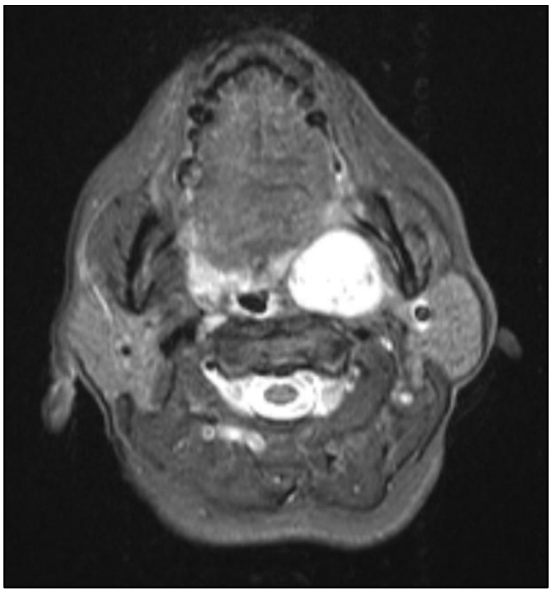

Figure 1. Contrast-enhanced MRI showing a well-circumscribed, heterogeneously enhancing lesion in the left parapharyngeal space, measuring 3.1 × 3.1 × 3.1 cm³

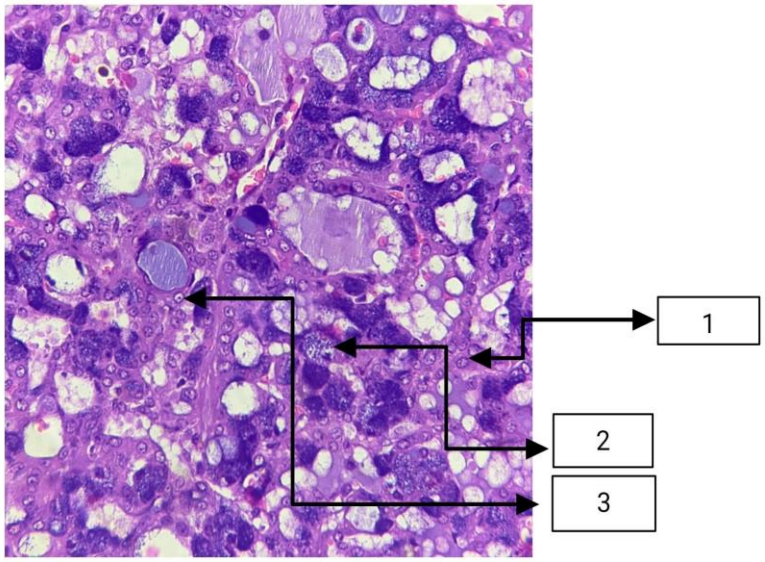

Figure 2. Histopathological section showing 1. Acinar cells with mild pleomorphism; 2. Basophilic cytoplasmic granules; 3. Prominent nucleoli.

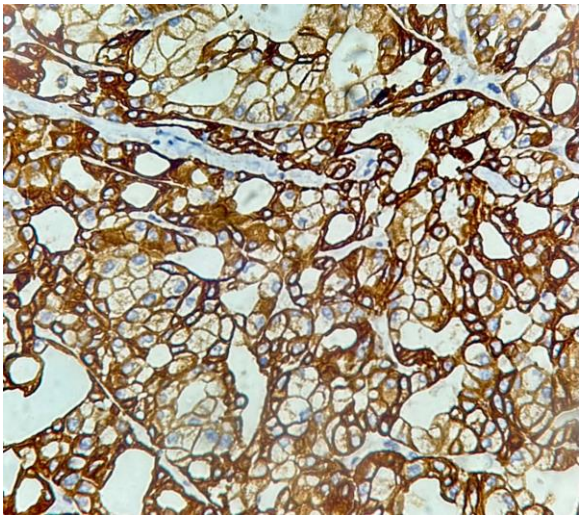

Figure 3. DOG1, SOX10 immunohistochemistry highlighting the membranous and cytoplasmic staining.

2.2. Case 2 : Adenoid Cystic Carcinoma of the Left Buccal Mucosa

A 46-year-old woman presented with a gradually enlarging swelling at the left angle of the mouth, initially pea-sized and progressively increasing over one year. There was no pain, discharge, bleeding, or ulceration. Systemic symptoms were absent.

Clinical examination showed a firm, mobile lesion with intact overlying skin and mucosa. CT imaging revealed a 2.6 × 2.3 × 2.1 cm soft tissue mass in the left buccal space, abutting the buccinator muscle. No bony erosion was seen. Histopathological evaluation of an excision biopsy revealed basaloid tumor cells arranged in a cribriform pattern, with evidence of perineural invasion. Surgical margins were positive. The tumor was categorized as Grade II AdCC, and the patient was advised adjuvant chemoradiotherapy. Planning for radiotherapy is currently underway.

3. DISCUSSION

Tumors of minor salivary glands are infrequently encountered and tend to present late due to their concealed anatomical locations.[2][3] ACC of the parapharyngeal space is particularly rare and often remains asymptomatic until it reaches a substantial size.[1] Contrast enhanced-MRI scan serves as the imaging modality of choice, given its superior delineation of soft tissue and adjacent structures.[2] Histologically, ACC is characterized by serous acinar cells with granular cytoplasm, often PAS-positive, and immunoreactivity for SOX10 and DOG1 supports the diagnosis.[4][6]

AdCC, although typically arising in the palate, may present in other minor salivary gland sites including the buccal mucosa.[5] It is defined by its indolent course but significant tendency for perineural invasion and local recurrence.[5] The cribriform pattern, as seen in our patient, is the most common subtype and carries an intermediate prognosis.[5] Surgical excision with negative margins is the mainstay of treatment, but positive margins or perineural involvement warrant adjuvant therapy.[5]

Given their low incidence, both tumor types can be easily overlooked, underscoring the need for vigilance in evaluating head and neck swellings, especially in atypical locations.[2][5]

4. CONCLUSION

Minor salivary gland tumors arising in rare sites such as the parapharyngeal space and buccal mucosa present diagnostic and therapeutic challenges.[1][2] The deep anatomical locations, lack of early symptoms, and histological variability necessitate a multidisciplinary approach.[5][6] Detailed imaging, histopathological and immunohistochemical confirmation, and individualized surgical planning are key to successful outcomes.[4][6] Both ACC and AdCC require vigilant long-term follow-up due to their potential for late recurrence.[5]

REFERENCES

[1]Yokoyama M, Nomura Y, Semba T. Acinic cell carcinoma of the parapharyngeal space. Head Neck. 1993;15(1):67–69.
[2]Luna-Ortiz K, et al. Primary tumors of the parapharyngeal space. Otolaryngol Head Neck Surg. 2005;132(4):587–591.
[3]Ellis GL, Auclair PL. Tumors of the Salivary Glands. AFIP Atlas of Tumor Pathology. 1996.
[4]Thompson LDR. Acinic cell carcinoma: A clinicopathologic review of 294 cases. Ear Nose Throat J. 2019;98(2):62–64.
[5]Pires FR, et al. Prognostic factors in head and neck adenoid cystic carcinoma. Oral Oncol. 2004;40(3):257–263.
[6]Skálová A, et al. Molecular profiling of salivary gland carcinomas: Diagnostic, prognostic, and therapeutic advances. Histopathology. 2018;73(1):102–111.

ABBREVIATIONS

ACC	Acinar Cell Carcinoma
AdCC	Adenoid Cystic Carcinoma
MRI	Magnetic Resonance Imaging
CT	Computed Tomography
PAS	Periodic Acid–Schiff
SOX10	SRY-related HMG-box gene 10
DOG1	Discovered on GIST-1
PanCK	Pan Cytokeratin
H&E	Hematoxylin and Eosin
ENT	Ear, Nose, and Throat
IHC	Immunohistochemistry
RT	Radiotherapy
cm	Centimeter