



Adenosquamous Carcinoma of the Oral Cavity:– A Rare Case Report

Dr. Astha Pusame¹, Dr. Ashok Vikey², Dr. Arushi Chaure³, Dr Sakshi Arora⁴

Author [2] -MDS, PHD, Associate professor, Author[1, 3,4]- MDS , Post graduate trainee,

[Department of Oral and Maxillofacial Pathology and Oral microbiology]

Government college of Dentistry Indore

Date of Submission: 20-06-2025

Date of Acceptance: 30-06-2025

ABSTRACT

Adenosquamous carcinoma (ASC) of the oral cavity is a rare and aggressive malignancy that exhibits both squamous and glandular differentiation, presenting unique diagnostic and therapeutic challenges. We report the case of a 60-year-old female with persistent pain and delayed healing following extraction of her left mandibular first molar. Clinical examination revealed an ulceroproliferative lesion in the left gingivobuccal sulcus with palpable lymphadenopathy. Histopathological evaluation confirmed a diagnosis of ASC, demonstrating features of both squamous cell carcinoma and glandular elements. The patient underwent surgical resection followed by adjuvant radiotherapy due to the tumor's aggressive nature and metastatic potential. Follow-up at six months showed no recurrence, and the patient tolerated the treatment well, with only mild mucositis as a side effect. This case highlights the importance of early clinical suspicion, accurate histopathological diagnosis, and a multidisciplinary approach in managing rare oral malignancies such as ASC.

Keywords –

1. Adenosquamous carcinoma,
2. Oral squamous cell carcinoma,
3. Histopathology
4. Diagnosis and management

I. INTRODUCTION

Head and neck cancer is the sixth most common malignancy globally, with oral cancer accounting for approximately 48% of these cases. Histologically, around 90% of oral cancers are oral squamous cell carcinomas (OSCCs) (Johnson et al., 2020)^[1]. Approximately 10–15% of OSCCs present as histopathological variants, including verrucous

carcinoma (VC), adenoid/acantholytic/pseudoglandular SCC (AdSCC), spindle cell/sarcomatoid carcinoma (SCSC), adenosquamous carcinoma (ASC), basaloid SCC (BSCC), and papillary SCC (PSCC) (Pathak et al., 2014)^[2]. Among these, ASC is considered particularly rare. According to the 2017 WHO classification of head and neck tumors, ASC is defined as a malignant tumor arising from the surface epithelium with both squamous and glandular differentiation (Westra& Lewis, 2017)

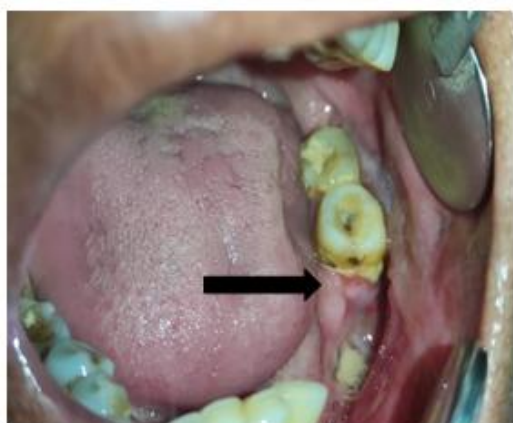
^[3]. Initially described by Gerughty et al. in 1968 as a malignant salivary gland tumor and previously termed adenoacanthoma by Lever in 1947, the current term "adenosquamous carcinoma" was later established by Muller(Gerughty et al., 1968)^[4]. ASC derives its name from pseudoglandular structures formed through acantholysis and degeneration of SCC cell islands. The first reported case of oral mucosal ASC, involving the tongue, was documented by Goldman et al. in 1977(Goldman et al., 1977)^[5]. ASC typically occurs in older adults, predominantly males in their sixth to seventh decade of life. Risk factors include tobacco and alcohol use; gastroesophageal reflux may also contribute, although its role remains uncertain(Kass et al., 2015)^[6]. Due to its aggressive clinical behavior and tendency for early metastasis, ASC carries a poor prognosis, with reported 5-year survival rates ranging from 13% to 50% (Passon et al., 2005)^[7]. This case report details an uncommon presentation of oral ASC in a female patient with a history of chronic tobacco use. It emphasizes the importance of early detection, comprehensive histopathological evaluation, and a multidisciplinary treatment approach.

II. CASE REPORT

A 60-year-old female presented with persistent pain and delayed healing following the extraction of her left mandibular first molar two months prior, along with a tender, ulceroproliferative lesion at the extraction site. Her medical history included well-controlled hypertension and type 2 diabetes mellitus, with no known allergies or prior surgeries. She reported a 20-25 year history of chewing tobacco and occasional alcohol use, but there was no family history of oral cancers or genetic conditions. Despite conservative treatment, the lesion persisted, leading to further investigation, including an incisional biopsy, which resulted in the diagnosis of adenosquamous carcinoma (ASC).

Clinical findings

The clinical examination revealed a deep ulceroproliferative lesion with indurated borders located in the left gingivobuccal sulcus, extending from the 34 to 36 region of the mandible. The lesion measured approximately 2.5×2.0 cm and presented with an erythematous surface, irregular borders, and tenderness upon palpation. Palpation of the left mandibular region revealed firm, non-tender lymph nodes, suggesting potential regional metastasis. No noticeable facial asymmetry was observed during extraoral examination. These clinical findings raised suspicion for carcinoma of the gingivobuccal sulcus, prompting further diagnostic evaluation through biopsy.[figure -1]



Figures -1 Ulceroproliferative lesion located in the left gingivobuccal sulcus

Timeline

Two months ago, the patient underwent left mandibular first molar extraction, followed by persistent pain and delayed healing. A month later, an ulceroproliferative lesion developed in the

gingivobuccal sulcus. Biopsy results confirmed a diagnosis of adenosquamous carcinoma.

Diagnostic Assessment:

The patient presented with an ulceroproliferative lesion in the left gingivobuccal sulcus, accompanied by palpable lymph nodes. Clinical examination raised suspicion of malignancy, leading to an incisional biopsy. Histopathological analysis revealed stratified squamous epithelium with both squamous and glandular differentiation, confirming the diagnosis of adenosquamous carcinoma (ASC).

Histopathological findings - Microscopic examination revealed stratified squamous epithelium with thin rete ridges infiltrating the connective tissue stroma. Deeper sections showed a glandular component. The squamous component exhibited well-differentiated SCC adjacent to dysplastic areas. The glandular component revealed ductal structures with smooth edges and varying degrees of cellular and nuclear pleomorphism.[figure -2]

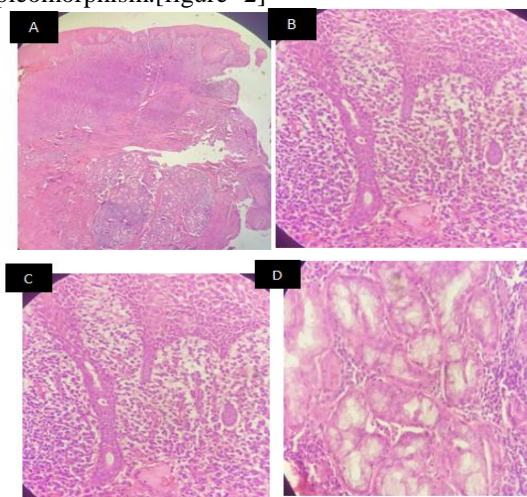


Figure 2. A: Squamous superficial component in contact with the surface epithelium, B: Squamous deep component showing keratin pearls. C: Transitional area between the squamous component and the adenocarcinomatous component. D: Adenocarcinomatous component showing duct-like structures, some exhibiting luminal content.

Therapeutic Intervention:

The primary intervention was surgical resection to remove the adenosquamous carcinoma (ASC) lesion with clear margins. Due to the tumor's aggressive nature, adjuvant radiotherapy was recommended to reduce the risk of recurrence. Radiotherapy details, including dosage and duration, were tailored to the patient's condition and tumor staging. Given the patient's medical



history of hypertension and diabetes, adjustments to the treatment plan were made to minimize complications and ensure optimal care.

Follow-up and Outcomes:

The patient was monitored through regular clinical exams and imaging for recurrence. Follow-up at 6 months showed no signs of recurrence. The patient adhered well to the treatment plan, with mild radiation-induced mucositis being the only side effect, which was managed conservatively. No unanticipated events occurred during follow-up, and the patient tolerated the interventions without major issues.

III. DISCUSSION

ASC of the oral cavity is rare and aggressive, with histological features of both squamous and glandular differentiation. The current case is noteworthy for its occurrence in a female patient, despite the condition's higher prevalence among males. Diagnosis was supported by histopathological examination and confirmed using special stains, consistent with literature recommendations (Johnson et al., 2020)^[1]. However, the absence of molecular and immunohistochemical analyses limits further insight into tumor biology and potential therapeutic targets (Pathak et al., 2014)^[2]. Surgical excision remains the treatment of choice for localized ASC, followed by radiotherapy or chemotherapy in high-risk or advanced cases (Westra & Lewis, 2017)

^[3](Gerugthy et al., 1968)^[4]. Our patient's treatment plan aligns with this approach and resulted in favorable short-term outcomes. The case also reinforces previous findings that regional lymph node involvement is common in ASC (Kass et al., 2015)^[6]. This report underscores the need for early diagnosis, thorough histopathological assessment, and multidisciplinary care in managing ASC. Future research should explore molecular markers and targeted therapies to improve survival outcomes in these patients (Passon et al., 2005)^[7].

IV. CONCLUSION

Adenosquamous carcinoma (ASC) of the oral cavity is a rare but highly aggressive malignancy characterized by its dual histological presentation and significant potential for regional and distant metastasis. Early diagnosis is paramount, as delays in detection and treatment can lead to poor clinical outcomes due to its rapid progression and resistance to conventional therapy. This case underscores the vital importance of

maintaining a high index of suspicion in patients presenting with non-healing oral lesions, particularly those with long-standing risk factors such as tobacco use. Comprehensive clinical examination, prompt biopsy, and thorough histopathological evaluation, including special staining techniques, are essential for accurate diagnosis. Furthermore, this case reinforces the necessity of a multidisciplinary approach involving oral surgeons, oncologists, pathologists, and radiologists to ensure timely and effective management. Personalized treatment planning, incorporating surgical resection with adjuvant therapy tailored to the patient's overall health and tumor characteristics, is crucial for improving prognosis. Long-term follow-up is also critical to monitor for recurrence. By sharing this case, we aim to raise awareness of ASC's clinical features, diagnostic challenges, and therapeutic strategies, contributing to better recognition and management of this uncommon yet formidable variant of oral cancer.

REFERENCES

- [1]. Johnson, D. E., Burtneiss, B., Leemans, C. R., Lui, V. W. Y., Bauman, J. E., & Grandis, J. R. (2020). Head and neck squamous cell carcinoma. *Nature Reviews Disease Primers*, 6(1), 92. <https://doi.org/10.1038/s41572-020-00224-3>
- [2]. Pathak, J., Swain, N., Patel, S., & Poonja, L. (2014). Histopathological variants of oral squamous cell carcinoma-institutional case reports. *Journal of Oral and Maxillofacial Pathology*, 18(1), 143. <https://doi.org/10.4103/0973-029X.131945>
- [3]. Westra, W. H., & Lewis, J. S. (2017). Update from the 4th Edition of the World Health Organization Classification of Head and Neck Tumours: Oropharynx. *Head and Neck Pathology*, 11(1), 41–47. <https://doi.org/10.1007/s12105-017-0793-2>
- [4]. Gerugthy, R. M., Hennigar, G. R., & Brown, F. M. (1968). Adenosquamous carcinoma of the nasal, oral and laryngeal cavities. A clinicopathologic survey of ten cases. *Cancer*, 22(6), 1140–1155. [https://doi.org/10.1002/1097-0142\(196811\)22:6<1140::AID-CNCR2820220610>3.0.CO;2-1](https://doi.org/10.1002/1097-0142(196811)22:6<1140::AID-CNCR2820220610>3.0.CO;2-1)
- [5]. Goldman, R. L., Klein, H. Z., & Sung, M. (1977). Adenoid Squamous Cell Carcinoma of the Oral Cavity: Report of the First Case Arising in the Tongue. *Archives of Otolaryngology - Head and Neck Surgery*, 103(8), 496–498.



- <https://doi.org/10.1001/archotol.1977.00780250090012>
- [6]. Kass, J. I., Lee, S. C., Abberbock, S., Seethala, R. R., & Duvvuri, U. (2015). Adenosquamous carcinoma of the head and neck: Molecular analysis using <scp>CRTC</scp>-<scp>MAML FISH</scp> and survival comparison with paired conventional squamous cell carcinoma. *The Laryngoscope*, 125(11). <https://doi.org/10.1002/lary.25519>
- [7]. Passon, P., Tessitori, G., Lombardo, M., Callea, S., & Poli, P. (2005). Long-surviving case of adenosquamous carcinoma of the larynx: case report and review of literature. *Acta Otorhinolaryngologica Italica : Organo Ufficiale Della Societa Italiana Di Otorinolaringologia e Chirurgia Cervico-Facciale*, 25(5), 301–303.