

## CASE REPORT

# Mucoepidermoid Carcinoma of Gingiva

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## ABSTRACT

**Background:** Neoplasms of minor salivary gland origin occur much less commonly than from major salivary glands. Only 57% of gingival tumors are neoplastic. Of the 57% gingival tumors, 2.5% are salivary gland in origin. Neoplasms of the minor salivary glands rarely involve the gingiva.

**Materials and methods:** The clinicopathologic features of the mucoepidermoid carcinoma (MEC) in a female patient are described. A 39-year-old woman showed a slowly growing, painless, soft mass in the lower left mandibular gingiva. The whole lesion was excised and histopathologic analysis was performed.

**Results:** The histopathologic sections showed a tumor composed of malignant cells with squamoid features admixed with few mucous cells suggestive of MEC. The healing after tumor removal was uneventful.

**Conclusion:** This case report highlights the importance of histopathological study of even a small apparently benign looking gingival lesions in anamnestically healthy patients in the oral cavity to verify existence of much more than that which meets our eye, so that appropriate, timely treatment can be rendered.

**Keywords:** Major and minor salivary glands, Mucoepidermoid carcinoma, Neoplasm.

**How to cite this article:** Patchava M, Nugala B, Sindhura N, Anupama T. Mucoepidermoid Carcinoma of Gingiva. *J Orofac Res* 2015;5(1):30-33.

**Source of support:** Nil

**Conflict of interest:** None

## INTRODUCTION

Malignant tumors of minor salivary glands involving gingiva are very rare and frequently appear similar

to more common pathologic soft tissue lesions, such as gingival hyperplasia and/or pyogenic granuloma. Mucoepidermoid carcinoma (MEC) is the most common malignant tumor of the major salivary glands (12–29%).<sup>1,2</sup> The common sites of its occurrence are palate, retromolar area, floor of the mouth, buccal mucosa, lips, tongue and very rarely on gingiva. The greatest incidence occurs between 3rd and 6th decade of life, but it may occur at any age and has a slight predilection for women than men (3:2).<sup>2,5,6</sup> The case report presented is one of the rare reports of the minor salivary gland malignancy involving the gingiva.

## CASE REPORT

A 39-year-old female patient reported at my surgery in Bhopal, with a swelling in the lingual side of right lower back tooth region. Patient noticed the swelling about 3 months back that has been growing very slowly to attain the present size. Past medical and dental histories were noncontributory. Her family history revealed no cases with malignancy.

Extraoral examination revealed no facial asymmetry and lymphadenopathy. Intraoral examination revealed nonulcerative 1.5 × 1.5 cm, pedunculated, soft, nontender mass in relation to lingual marginal gingiva of 45 and 46 region (Fig. 1). The lesion adhered to gingiva but not fixed to the underlying bone. Radiograph revealed no bony erosion (Fig. 2). Based on the clinical and radiological findings, the most likely differential diagnosis included reactive lesions, such as pyogenic granuloma or peripheral giant cell granuloma. Therefore, during the initial



**Fig. 1:** Pedunculated enlargement on lingual side of 45, 46

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consultation, the whole lesion was excised under local anesthesia, fixed in formalin solution, and submitted for histopathological examination (Fig. 3). Postoperative healing was uneventful (Fig. 4). The section, on histopathological examination showed cells with altered nuclear cytoplasmic ratio, nuclear pleomorphism, hyperchromaticity, few mitotic figures, prominent nucleoli,

interspersed with faintly staining mucous cells suggestive of high-grade MEC. Periodic acid Schiff staining was done to confirm the presence of mucous cells (Figs 5 and 6) (TNM staging—Stage 1). Patient was recalled and second biopsy was done at the same region after a month and the histological section showed no signs of malignancy.



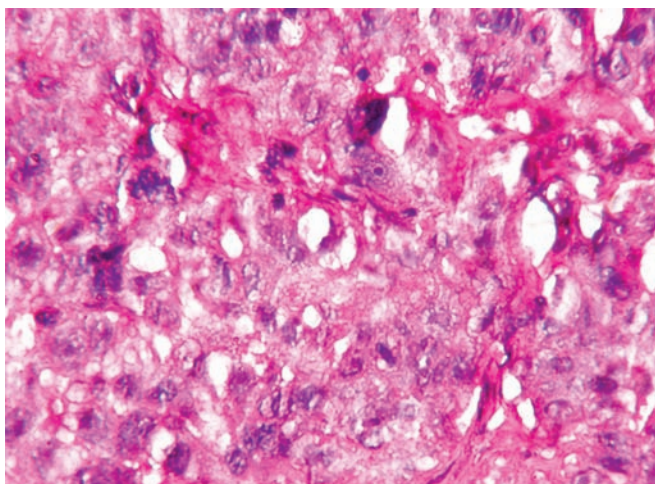
**Fig. 2:** Radiograph



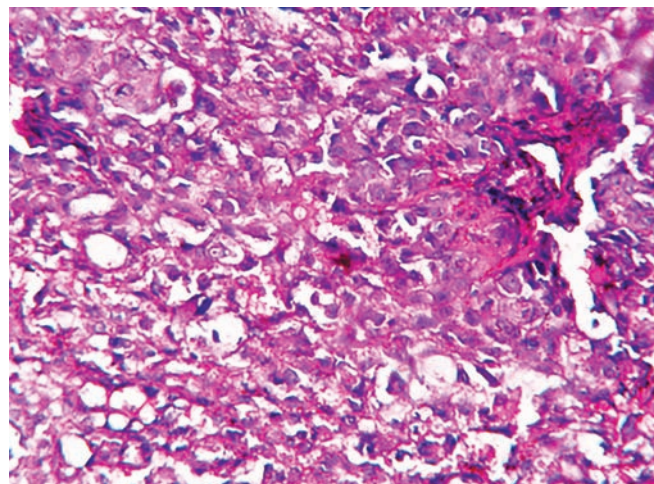
**Fig. 3:** Immediate postoperative showing clear margins



**Fig. 4:** Postoperative view after 1 month uneventful healing



**Fig. 5:** 40× Magnification of H&E stained section



**Fig. 6:** 40× Magnification of PAS stained section

## DISCUSSION

It is not uncommon to diagnose MEC as benign lesion of the gingiva. These tumors are rare and usually not included in the differential diagnosis of the gingival lesions. Mucoepidermoid carcinoma of the minor salivary gland is a rare disease in relation to the gingiva.<sup>3,4</sup> The majority of these tumors are fortunately low to intermediate grade and their slow growth and low potential for metastasis is well illustrated.<sup>11</sup> Therefore, treatment consisted of wide local excision followed by primary closure if the margins are clean. Unless there is a radiological and clinical evidence of bone invasion, excision of the underlying bone is not necessary.<sup>14,15</sup>



The low and intermediate grade MEC's are much less aggressive than squamous cell carcinoma, which is conventionally treated with 1 cm margin's excision. Mandibular resection is not advocated if the periosteum is not invaded.<sup>15</sup>

We have utilized a similar philosophy for the present MEC (TNM staging—Stage 1) and in the absence of periosteal invasion; we have not excised the underlying bone. One to 1.5 cm deep margin excision was done; our patient has no recurrence till date. Cure rates of 100% were reported in adults with low and intermediate grade MEC with local excision.<sup>13,18</sup> These authors' state that radical surgeries on small, localized tumor with low to intermediate grade histology is contraindicated. Radical surgery is the treatment of choice for all high grade MECs or low and intermediate-grade tumors that are large and involve the bone.<sup>6</sup> So it is useful, for MECs of minor salivary glands, the histopathological stage of the tumor to be associated with the clinical findings before treatment decisions.<sup>12,19</sup>

If positive margins are identified postoperatively, the surgeon should re-excise the area whenever possible. Here, we have done a second biopsy for confirming clear margins. Low to intermediate grade early stage disease will in all likelihood be controlled successfully with surgery alone. Treating these tumors with radiation alone has proven to be unsuccessful. If there is residual disease and surgery is not possible, radiation therapy has been proven to be beneficial as adjuvant therapy. Radiation therapy should be added in high-grade tumors and for patients with unclear surgical margins or for patients with positive lymph nodes. Follow-up must be diligent in light of the fact that local recurrence has been reported as late as 22 years from the initial diagnosis.<sup>16</sup>

The prognosis is dependent on the clinical stage, histological grading, and adequacy of surgery. Survival is greater than 95% for low-grade tumors and regional metastasis is rare.<sup>7,9</sup> The studies of Armed forces institute of pathology (AFIP) indicated that 5% of major gland and 2.5% of minor gland low-grade MEC's metastasized to regional lymph nodes or resulted in death.<sup>10</sup> A correlation has been found between prognosis and the following parameters: age (better in younger patients), and sex (better in females).<sup>20</sup> Intermediate and high-grade tumors have a high tendency to infiltrate, recur, and metastasize. The death rate increases to 45% for high-grade tumors. Tumors that transgress surgical margins have a high recurrence rate, particularly high-grade tumors. Death is usually caused by uncontrolled locoregional disease and metastasis to lung, bone and brain.<sup>8,17</sup>

## CONCLUSION

Treatment outcome is influenced by clinical stage and histological tumor grade. We believe and agree with many authors that MECs of minor salivary gland tumors with low to intermediate grade should be treated with wide local excision alone, if it can be achieved, with clear surgical and histological margins. A careful diagnosis has to be made and doubtful cases should be sent for further evaluation. In this case, further evaluations have to be done to eliminate possible metastasis. This case also emphasises that even benign looking gingival lesions in healthy looking patients need to be examined histopathologically.

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