Lehigh Valley Health Network:
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Gingival Lesions: Not Periodontal Disease

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Introduction

-Sarcomatoid carcinoma is a rare and aggressive form of cancer

-Sarcomatoid carcinoma is a biphasic tumor, composed of epithelial and mesenchymal components

-It is mostly seen in males with an extensive smoking history

-the most common locations are the urinary and upper respiratory tracks

-Sarcomotoid carcinoma rarely metastasizes to the gingival tissue and oropharyngeal space

Work-Up

Initial results of the alveolar ridge biopsies revealed poorly differentiated neoplasm staining positive for broad-spectrum cytokeratins (AE1/AE3). Right lower lung biopsies revealed AE1/AE3 and Vimentin positive poorly differentiated malignant neoplasm consistent with sarcomatoid carcinoma. An MRI brain was performed which was negative for any potential metastatic disease. Pleural effusions were treated with decortication and pleural fluid studies were overall unremarkable. Pleural debris demonstrated AE1/AE3 positive tumor cells morphologically similar to the tumor identified in the alveolar ridge.

Treatment

The patient had extensive dental surgery to remove all of his teeth. ENT was asked to remove the masses but deemed the surgery too high-risk to proceed. The mandible was treated with radiation to 20Gy in 5 fractions. The initial treatment planning included paclitaxel and carboplatin after PET-CT was obtained. Unfortunately, the patient had continued oropharyngeal bleeding, and was noted to have a significantly worse metastatic disease upon re-admission to the hospital. The patient expired shortly afterwards under the care of hospice.

Discussion

-Sarcomatoid carcinoma composes less than one percent of all lung cancers

-this form of malignancy is rare, but extremely aggressive and metastasizes rapidly

-Origination of this tumor is controversial, involving either a cross-pathway between sarcoma and carcinoma **or** involving an existing precursor cell

-The most significant risk factor for developing this tumor type is smoking

-The classic appearance of this tumor: dyscohesive sheets of large pleomorphic cells with an ultrastructural transition zone between the two components

-In most cases, the sarcomatous component dominates the transition zone

-Diagnosis revolves around immunohistochemical staining, revealing cytokeratins and vimentin (*found in mesenchymal/spindle cells)

-Involvement of the head and neck is very rare, and gingival tissue involvement is rarer still

Presentation

A 52-year-old male with a history of alcohol and extensive tobacco usage presented to the ED for weight loss, increasing dental pain, and gingival recession with bleeding. Imaging revealed a large mass in the right maxillary buccal mucosa and left mandibular buccal mucosa associated with extensive lymphadenopathy in the cervical and mediastinal regions. The patient was also noted to have a large right pleural mass, pleural effusions, and large masses in the bilateral adrenal glands.

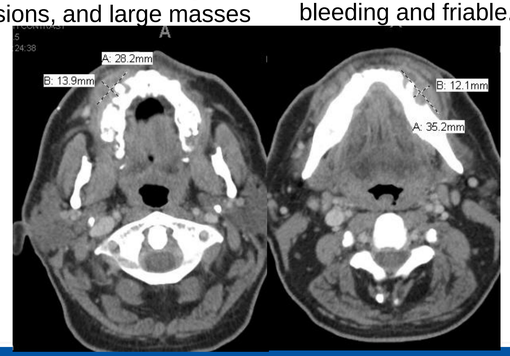


Figure 1. Initial CT-scan showing R maxillary and L mandibular masses.

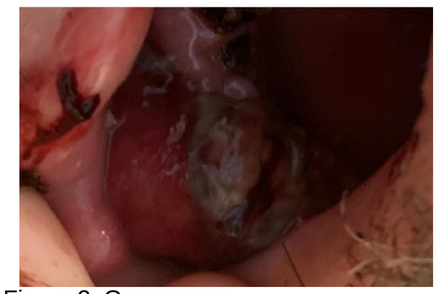


Figure 2. Gross mass present in the oropharynx, bleeding and friable.

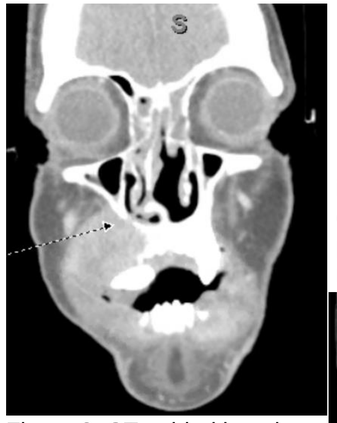
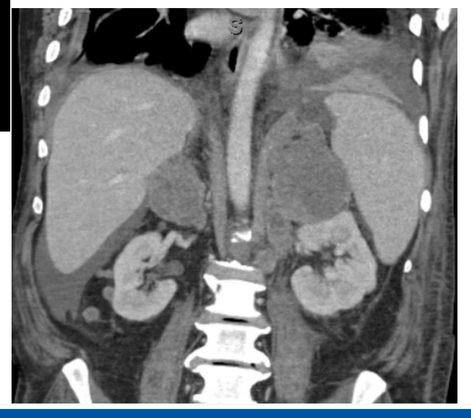


Figure 3. CT guided imaging demonstrating erosion of the mass into bone and gingiva.

Figure 4. CT guided imaging demonstrating extensive and profound adrenal metastasis.



Conclusion

Sarcomatoid carcinoma is a rare and aggressive cancer that rarely metastasizes to the head and neck, let alone the gingival tissue. There is no universal treatment and overall mortality is quite high.

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