

Abstract

Mucosal melanoma of the oral cavity is an uncommon malignancy that may present at an advanced stage due to subtle or nonspecific symptoms.¹ This case describes a 58-year-old African American male diagnosed with mucosal melanoma of the anterior mandibular gingiva who underwent anterior composite mandibulectomy with bilateral neck dissections and reconstruction. Gross and histologic evaluation demonstrated a 2.9 cm melanoma involving mandibular bone with seven positive cervical lymph nodes, with a final pathologic stage of pT4a pN1.

Background

Oral Mucosal Melanoma

Oral mucosal melanoma is a rare and aggressive malignancy arising from melanocytes within the mucosal epithelium of the oral cavity. Unlike cutaneous melanoma, it is not primarily associated with ultraviolet radiation exposure and may be overlooked because early symptoms are often nonspecific. Patients may present with pain, bleeding, ulceration, swelling, pigmentation, or loosening of dentition, depending on tumor location and extent of invasion. Gingiva and hard palate are commonly involved oral sites, and delayed diagnosis can result in advanced local disease, bone invasion, cervical lymph node metastasis, and poor prognosis.¹

Melanoma in African American Patients

Although melanoma is less common in African American patients, it more often arises in less sun-exposed locations, including acral and mucosal surfaces. This difference in presentation can contribute to delayed recognition because melanoma may be less suspected by both patients and providers, particularly when lesions occur outside classic sun-exposed skin. Lower perceived risk, reduced access to preventive screening, and less inclusive public education campaigns may also contribute to later-stage diagnosis. This case emphasizes the importance of careful oral examination and a high index of suspicion for persistent pigmented, bleeding, painful, ulcerated, or mass-like mucosal lesions in all patient populations.²⁻⁴

Comparison of Cutaneous Melanoma and Oral Mucosal Melanoma

While both entities are malignant melanocytic neoplasms with metastatic potential, oral mucosal melanoma is distinguished by its non-sun-exposed location, nonspecific symptoms, and tendency to present at an advanced stage.¹

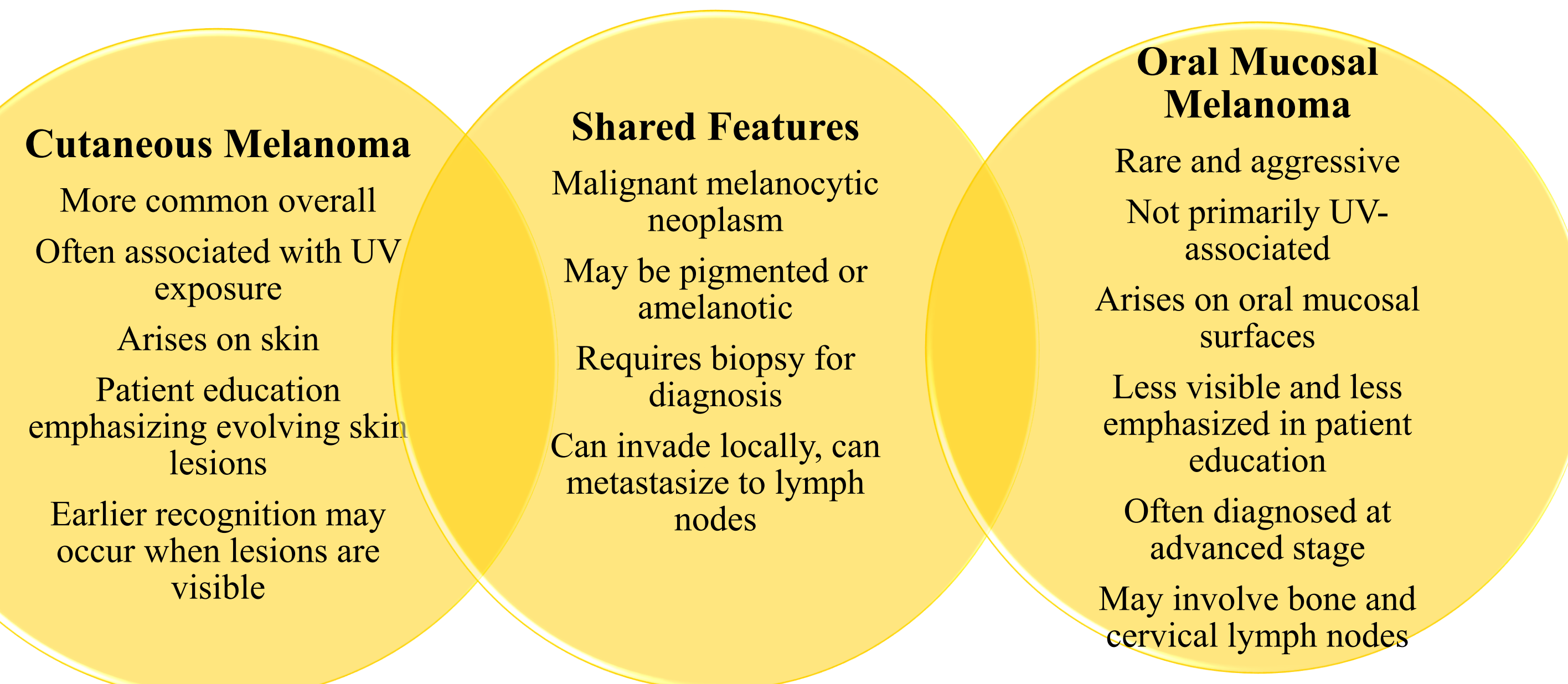


Figure 1. Comparison of cutaneous melanoma and oral mucosal melanoma

Clinical History

A 58-year-old African American male with a 40-pack-year smoking history and heavy alcohol use noticed pain and bleeding in the anterior mandibular gingiva with associated loosening of dentition earlier in the year. Imaging demonstrated an anterior mandibular lesion with bilateral cervical lymphadenopathy, and PET scan showed questionable pulmonary metastases.

Hospital Course

The patient underwent anterior composite mandibulectomy with bilateral neck dissections and reconstruction. Intraoperative frozen section for margins were submitted from the left and right ventral tongue, floor of mouth, and left and right labial mucosa. All margins were negative for malignancy on final diagnosis. The resection specimen included the mandible with tongue and anterior floor of mouth, allowing evaluation of the primary tumor, mucosal and soft tissue margins, bone margins, tumor-to-bone relationship, and cervical lymph node involvement.

Gross Morphology

The anterior composite mandibulectomy measured 6.9 x 5.6 x 6.8 cm and contained a 2.9 cm black to tan-white mass extending through the anterior mandible. The tumor came within <1 mm of the anterior mucosal margin and was >1 cm from the bone resection and posterior soft tissue margins. Representative sections documented mucosal and soft tissue margins, bone margins, and tumor involving mandibular bone after decalcification.

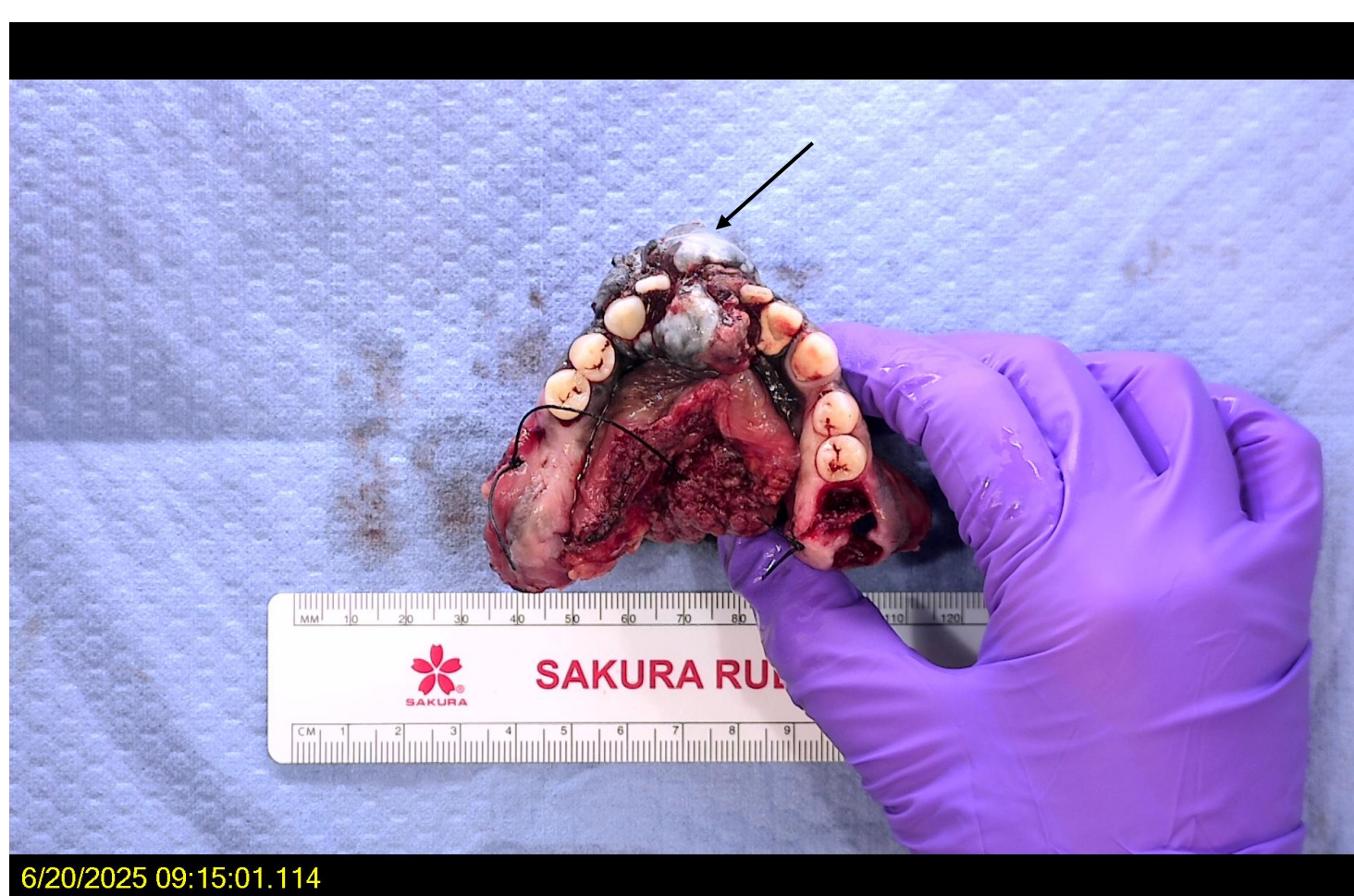


Figure 2: Gross photograph of the anterior composite mandibulectomy specimen, including mandible, tongue, and anterior floor of mouth. The specimen demonstrates a darkly pigmented lesion centered in the anterior mandibular gingival region (black arrow)

Figure 3: Cut surface of the mandibulectomy specimen with the dark pigmented mass demonstrating gross involvement of the mandible (red arrow), which was confirmed on histologic evaluation.



Figure 4: Gross photograph of the left levels IIA-III neck dissection specimen. Final pathology identified metastatic melanoma in 2 of 25 lymph nodes from this specimen, with microscopic extranodal extension.

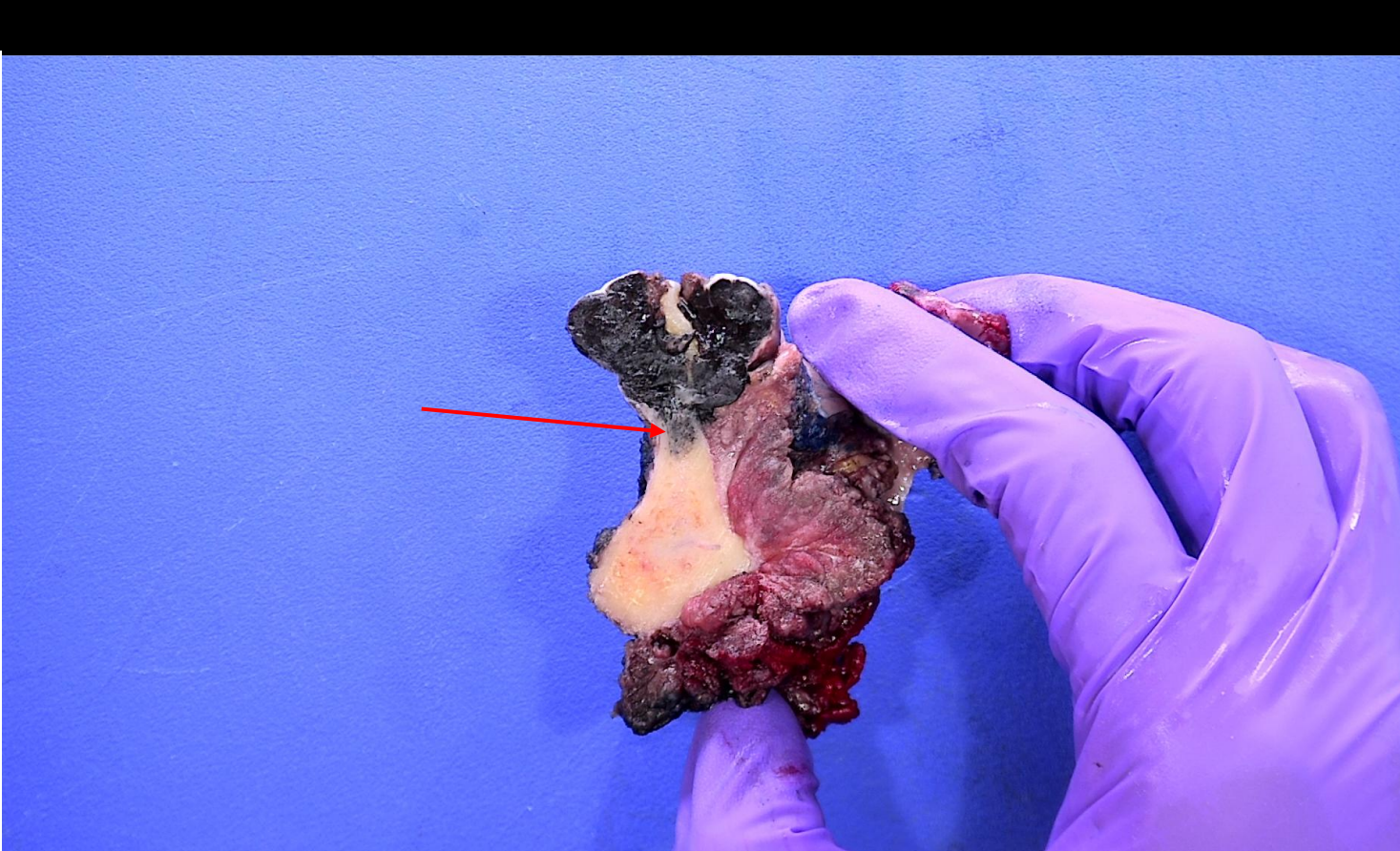


Figure 5: Gross photograph of the right levels I-III neck dissection specimen, with nodal levels designated for gross evaluation. Pigmented nodes were identified, suspicious for metastasis. Final pathology identified metastatic melanoma in 4 of 32 lymph nodes.

Final Diagnosis

- Mucosal melanoma, 2.9 cm, involving the mandible with extension into bone.
- Surgical margins were negative for melanoma.
- In left neck levels IA-III, metastatic melanoma in two of twenty-five lymph nodes (2/25; largest metastatic deposit measuring 3.5 cm; extranodal extension was identified).
- In right neck levels I-III, metastatic melanoma in four of thirty-two lymph nodes (4/32).

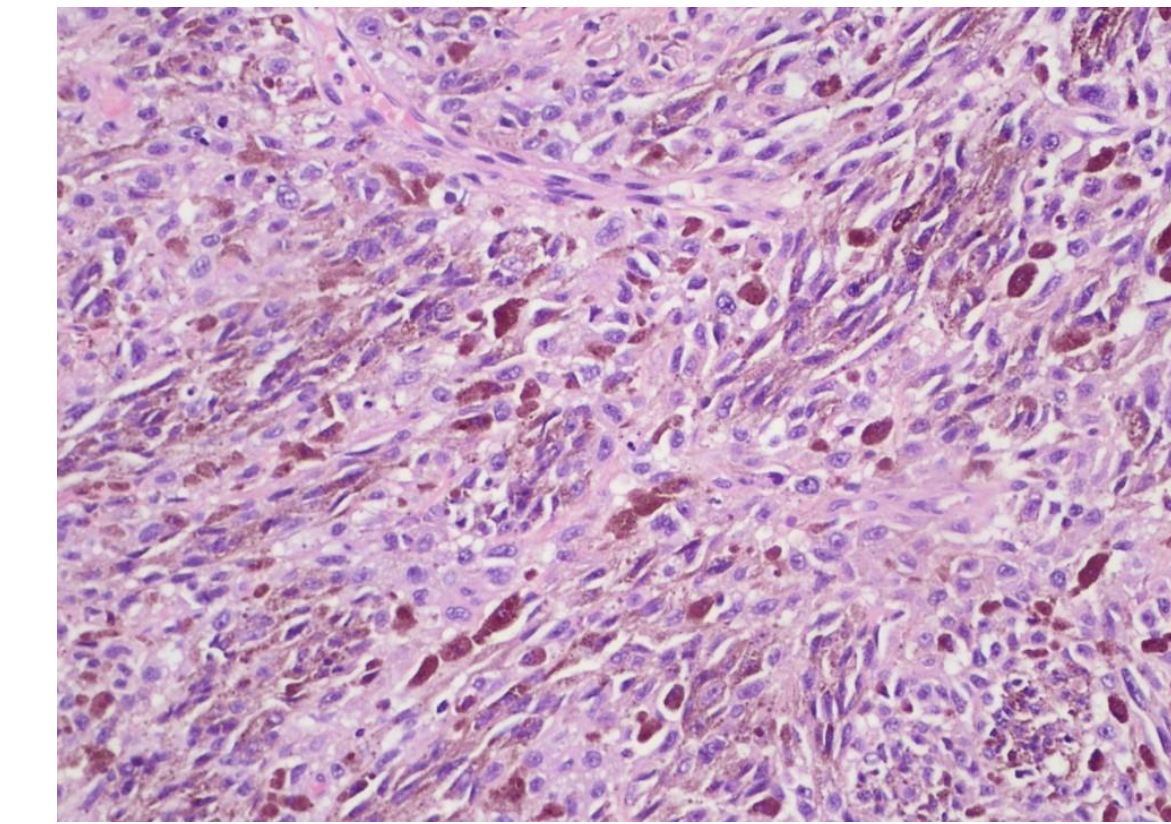


Figure 6: Photomicrograph of malignant melanoma with evident melanin pigment.

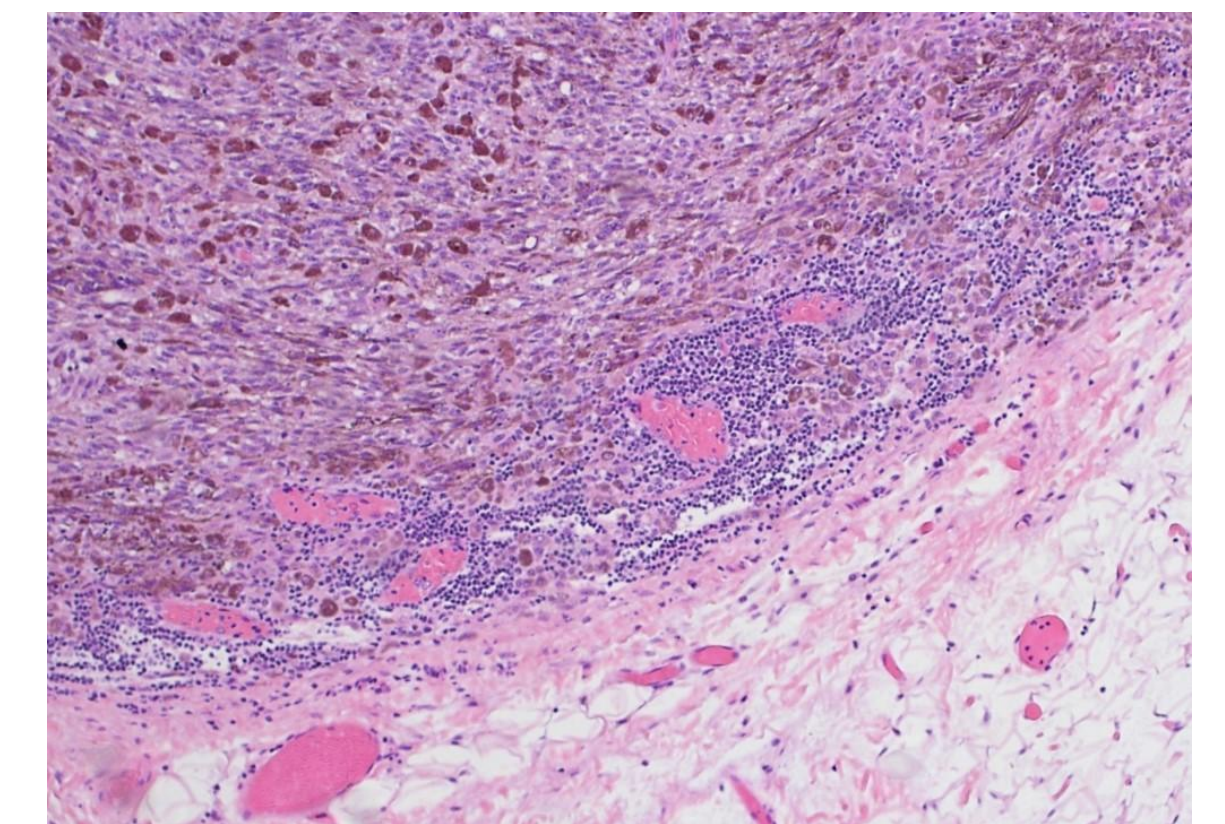


Figure 7: Photomicrograph of metastatic melanoma involving a lymph node.

Staging

- pT4a: Moderately advanced disease; tumor involving bone.
- pN1: Regional lymph node metastases present.
- Final pathologic stage: pT4a pN1

Discussion

In African American patients, melanoma may arise in acral or mucosal sites rather than classic sun-exposed cutaneous locations, reinforcing the need for careful evaluation of persistent oral lesions.²⁻⁴ Given the patient's clinical presentation, appropriate evaluation of the oral cavity allowed identification of the lesion and appropriate management.

This case highlights the combined role of gross examination, histologic evaluation, and clinicopathologic correlation in staging advanced oral mucosal melanoma. Gross examination of the composite mandibulectomy specimen guided targeted sampling of the tumor, margins, and involved mandibular bone, while histologic evaluation confirmed mandibular invasion and regional nodal metastasis.

Conclusion

This case highlights the role of gross examination in documenting the full extent of advanced oral mucosal melanoma. Careful assessment of the composite mandibulectomy specimen established tumor size, margin relationships, and mandibular bone involvement, while bilateral neck dissection evaluation confirmed regional metastatic disease. Thorough grossing, representative sampling, and clinicopathologic correlation were essential for accurate staging and final diagnosis.

References

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