

Unmasking Hidden Metastasis: A Case of Aggressive Non-Cutaneous Small Cell Melanoma



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INTRODUCTION

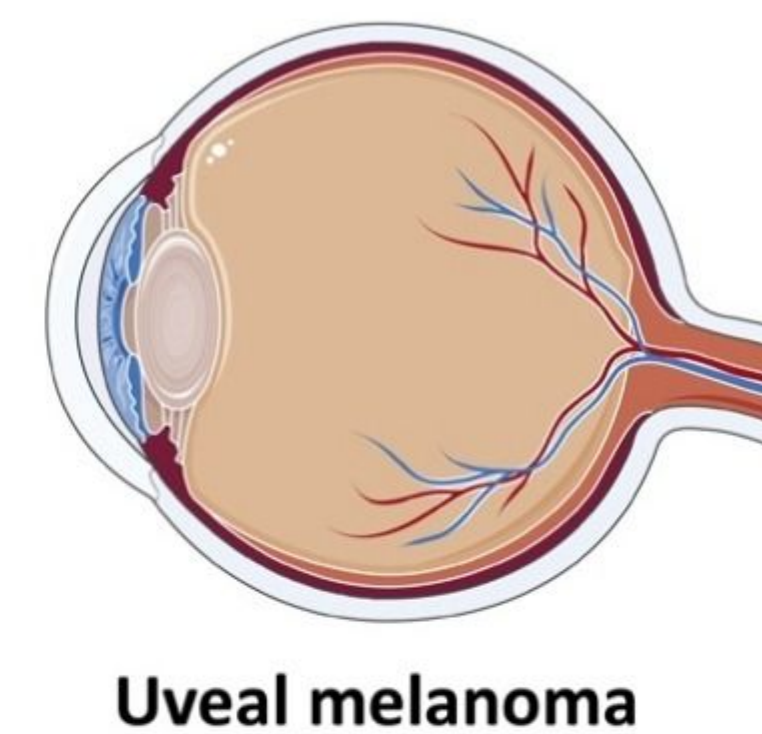
- Melanoma is an aggressive malignancy of melanocytes that can spread from a small primary tumor to multiple sites, including the lungs, liver, brain, bones, and lymph nodes.
- 5th most common cancer in the U.S. with 106,000 estimated cases in 2021 (5.6% of all cancer diagnoses).
- Melanoma represents only 1% of skin cancers but causes over 80% of skin cancer deaths.
- Most melanomas arise in the skin and can be cured with early detection and surgical excision.
- Non-cutaneous melanomas are rarer and more aggressive, originating in ocular and mucosal regions and often presenting insidiously.



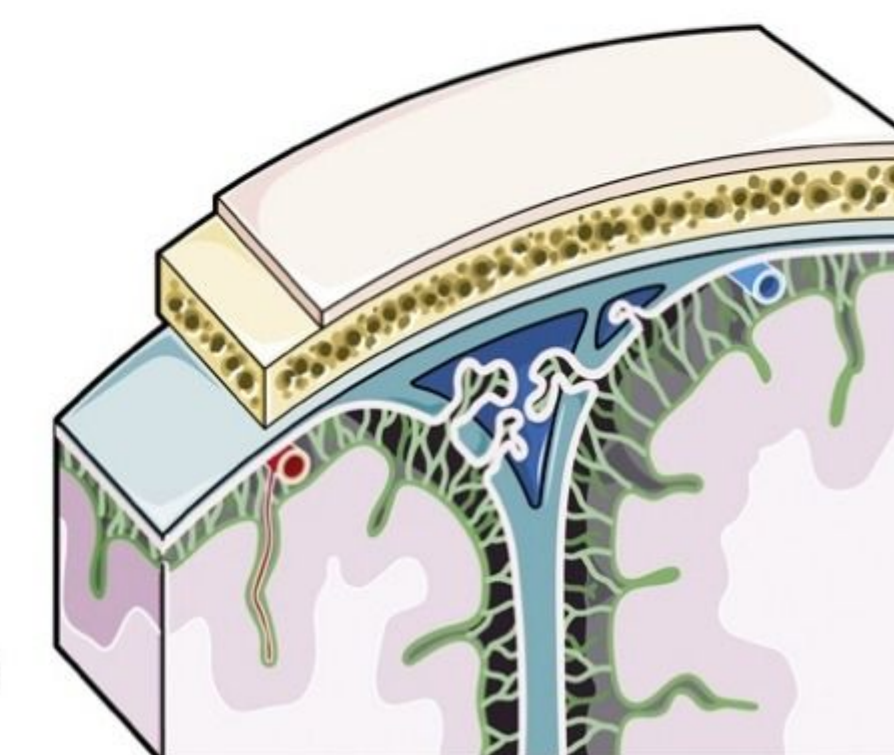
Mucosal melanomas

Noncutaneous Melanoma: It's Not Just About Skin

Leptomeningeal melanoma



Uveal melanoma



CASE DESCRIPTION

- A 50-year-old female presented with new-onset shortness of breath, fatigue, and diffuse rib pain, initially localized to the right shoulder and later spreading to the chest wall, leading to breathing difficulties.
- The pain began spontaneously in her right shoulder and worsened over six months, eventually prompting an urgent x-ray, which revealed multiple lung nodules and a fracture of the clavicle.
- Further imaging showed extensive metastatic disease, including lytic lesions in the spine, ribs, and clavicle, pulmonary embolism, hepatic metastases, and enlarged lymph nodes.
- She had a history of smoking, having quit over 20 years ago, and worked as a school bus driver, which may have contributed to sun exposure-related risks.
- Biopsy of a rib mass confirmed metastatic melanoma, **small cell variant**, with immunohistochemical markers positive for S100, HMB45, Melan-A, and SOX 10.
- Neurosurgery evaluated her for spinal lesions but deemed her a poor surgical candidate due to the extensive metastases.
- She was treated for cancer-associated pulmonary embolism and prepared for systemic chemotherapy but succumbed to her illness before therapy could begin.

DISCUSSION

- Melanoma can present as metastatic disease without a primary site leading to a poorer prognosis compared to primary cutaneous melanomas.
- Advanced stage at diagnosis and abundant vascular and lymphatic supply in mucosal sites contribute to this poor outcome.
- Metastatic small cell melanoma is a rare variant, accounting for about 2% of all malignant melanomas, and closely resembles lymphoblastic lymphoma and other malignant small round blue cell tumors.
- Small cell melanoma may serve as an independent risk factor for poor prognosis.
- Biopsy results from our patient indicated a small cell variant of metastatic melanoma, likely contributing to the aggressive disease spread and poor prognosis, compounded by the non-cutaneous nature of her disease.
- There is insufficient literature on the prognosis and behavior of this rare melanoma variant, highlighting the need for further research in this area.

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