

A Case of Hide and Seek: Full Regression of Malignant Melanoma with Metastasis due to Tumoral Melanosis

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Introduction

- Tumoral melanosis (TM or nodular melanosis) is a clinically rare dermatologic phenomena associated with complete regression of pigmented melanotic lesions. TM is characterized histologically by dermal infiltration of densely layered pigmented melanophage aggregation and concurrent absence of melanocytes on cutaneous biopsy. TM is a remarkably uncommon dermatopathologic finding and while diagnosis suggests regression of a primary lesion, metastasis and local lymph node invasion cannot be ruled out. Due to the varying presentation of patients with TM, a histologic diagnosis necessitates continual management and surveillance. The following case highlights the presentation, diagnosis, and management of an elderly man with TM.

Case Description

- An 81-year-old male veteran with a medical history significant for ulcerative colitis, Hashimoto's thyroiditis, and type 1 diabetes presented to dermatology for evaluation of a melanotic lesion of the occipital scalp. He was a former Tour de France cyclist who reported years of unprotected UV sun exposure. At the time of presentation, he admitted to an unexplained 30-pound weight loss over the preceding 12 months. In addition, he noted a friable ulcerated lesion on his scalp earlier that month.

Physical Examination

- Vital signs: Temp 97.5 °F, BP 112/80, P 68, R 16, and pulse oximetry 99% on room air.
- On physical examination, the patient was well-appearing and in no acute distress. Skin exam revealed a 6mm black dome-shaped papule uniform in color with regular border along the vertex scalp with 15 pinpoint 2mm black papular satellite lesions surrounding the central lesion. Numerous benign angiomas were also noted on the scalp and trunk. Neck exam revealed positive right posterior cervical lymphadenopathy about 1cm in diameter non-tender to palpation. There was no anterior cervical, submandibular, submental lymphadenopathy or thyromegaly appreciated.

Results

- A punch biopsy of the largest 6mm papule was performed in-office during the dermatology consult and the specimen was sent to pathology for histological interpretation.
- Dermatopathology impression: Specimen reveals dense sheets of pigmented melanophages within the dermis and no nevus melanocytes or melanoma cells by immunohistochemical stains. Pigmented cells on biopsy lack biochemical markers specific to melanoma (negative for MART-1, HMB-45, and S-100 protein, absence of Langerhan cells). Other causes of dermal pigmentation including iron or lead are not present in specimen. A melanotic neoplasm is not identified, histologic findings are consistent with tumoral melanosis.**



(The figure above is an example of incisional biopsy displaying aggregates of pigmented melanophages with concurrent dermal necrosis, the hallmark finding of TM on histology. Image courtesy The American Journal of Dermatopathology 40(6):462-465, June 2018. Image used for educational purposes.)

- Due to the presence of right cervical lymphadenopathy on initial presentation, a whole-body PET scan was ordered and revealed 2 hypermetabolic foci involving bilateral infra auricular regions as well as mildly hypermetabolic foci of R. hilar lymph node. Impression: Constellation of findings are consistent with metastatic melanoma.
- The patient was referred to otolaryngology and underwent subsequent excisional biopsy of the right posterior cervical node and then pulmonology for endobronchial ultrasound biopsy of the hilar node identified on PET scan. Remarkably, both specimens showed complete regression of melanoma without evidence of active neoplastic cells.

Plan of Care

- Due to the aggressive nature of melanoma the patient will be observed and managed by a multidisciplinary team including pulmonology, dermatology, and otolaryngology despite evidence of complete regression
 - At 6-month ENT follow-up, a routine surveillance whole body PET scan was ordered.
- Impression: Head and neck display no abnormal metabolic foci. Previously visualized hypermetabolic foci involving bilateral infra-auricular nodes have resolved.
- Chest- mildly hypermetabolic foci of R. hilar lymph node (may represent inflammatory/reactive uptake in hilar node although persistent nodal metastatic involvement cannot be entirely ruled out).

Discussion

- Due to the low incidence of tumoral melanosis the pathogenesis of the histologic anomaly is poorly understood.
- One hypothesis currently proposed by the clinician's involved in this patient's care is that the presence of multiple autoimmune diseases (Ulcerative Colitis, Hashimoto's thyroiditis, Type 1 diabetes) may have catalyzed the proliferation of melanophages and the subsequent autoimmune mediated destruction of his cancer cells.
- Because TM can present similarly as malignant melanoma, diagnosis must be made by biopsy and histologic interpretation. Likewise, the management of TM often requires a multi-disciplinary approach with adherence to guidelines for surveillance of reoccurrence and metastasis.

References

References

- Grohs, Robert L. MBBS*; Mesbah Ardakani, Nima MD. (June 2018). Melanoma Manifesting as Tumoral Melanosis; Now You See it, Now You Don't. *The American Journal of Dermatopathology: June 2018- Volume 40 – Issue 6 – p462-465.*
- Ng S, Chave T. Tumoral Melanosis as a Manifestation of a Completely Regressed Primary Melanoma with Metastases. *Br J Dermatol.* 2006;155:627–628