



Case report

Primary hepatic carcinoid tumor metastasizing to eyelid: A case report

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ABSTRACT

Purpose: We report a rare case of a metastatic carcinoid tumor to the right lower lid masquerading as a chalazion.

Observations: A 78-year-old Hispanic woman who presented with a 3-month history of a non-resolving chalazion on the right lower lid despite aggressive medical treatment. The patient had a history of noninfectious anterior uveitis and primary hepatic carcinoid tumor that was incidentally diagnosed during the initial uveitis work-up. The right lower eyelid lesion was biopsied and histological and immunopathological analysis revealed a well differentiated neuroendocrine tumor consistent with a carcinoid tumor.

Conclusion and Importance: Neuroendocrine tumors should be considered as part of the differential diagnosis of focal, vascularized eyelid masses. To the authors best knowledge this is the first reported case of primary hepatic carcinoid tumor with metastasis to the eyelids. We also highlight the importance of pursuing a histopathologic diagnosis, in the setting of a non-resolving or recurrent chalazion.

1. Introduction

Carcinoid tumors are a heterogeneous group of neoplasms composed of epithelial cells that show neuroendocrine differentiation.¹ These tumors arise more frequently in the gastrointestinal and bronchopulmonary systems, but may arise from a variety of locations in the body.^{1–3} They may metastasize to liver, lymph nodes, and bones. Rarely, carcinoid tumors may also metastasize to the skin, eyes, and orbits.^{4–7} Next, we present a case of well-differentiated primary hepatic carcinoid tumor metastasizing to the eyelid and masquerading as a chalazion.

2. Case report

A 78-year-old Hispanic female patient presented with a painless progressive enlarging right lower eyelid mass-like lesion. This lesion was first noted by the patient 3 months prior to presentation as a small painless nodule that was conservatively treated by her primary ophthalmologist as a chalazion. Despite the use of warm compresses and topical steroids, the lesion continued to increase in size prompting the ophthalmologist to refer the patient to an oculoplastic specialist for further treatment.

Examination by the oculoplastic specialist revealed a 3 mm × 2 mm lesion located in the right lower eyelid margin involving both the anterior and posterior lamella. It was a violaceous, nontender, non-ulcerated nodular lesion with associated telangiectatic vessels. Madarosis was also present. (Fig. 1). The patient had an excisional biopsy performed of the lower lid lesion and underwent a complete ophthalmic examination which was unremarkable in both eyes.

The patient had a past ocular history of chronic bilateral non-infectious anterior uveitis, successfully treated with topical corticosteroids. As part of the uveitis work-up done to further evaluate a pulmonary granuloma, a Chest Spiral Computerized Tomography (CT) was pursued. The Chest CT scan incidentally revealed multiple heterogeneous liver lesions, which along with elevated Chromogranin A levels, led to the diagnosis of a liver carcinoid tumor, approximately one year prior to the presentation of the eyelid mass. Treatment with octreotide acetate for injectable suspension, was instated upon the carcinoid tumor diagnosis and was being used at the moment the eyelid mass occurred.

Past medical history was remarkable for type two diabetes mellitus, hypertension, both controlled with oral medications, severe vitamin D deficiency (16ng/ml), dyslipidemia and two hyperplastic adenomatoid thyroid nodules.

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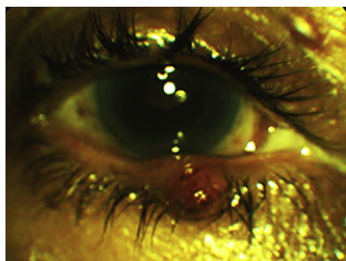


Fig. 1. Right lower eyelid nodular lesion with madarosis.

2.1. Pathological findings

The eyelid biopsy measured 0.6 × 0.4 × 0.5 cm. On microscopy, tumor disclosed nests of small round cells with neuroendocrine features seen within the dermis and around adnexal structures (see Fig. 2A, B, and 2C). Immunohistochemistry confirmed their neuroendocrine origin with strong and diffuse immunoreaction for chromogranin and synaptophysin immunostains (Fig. 3), in addition to low molecular weight cytokeratin. Though histology was that of a well differentiated neuroendocrine tumor, increased mitotic figures (16 in 10 HPF) highlighted by phosphohistiodione H3, and an increased proliferation index, greater than 20% (see Fig. 4), was worrisome and careful surveillance was advised.

3. Discussion

Carcinoid tumors were first described by Lubarsch and co-workers in 1888.^{8,9} Their estimated overall incidence is 5.25 cases per 100,000.^{2,9} They are rare, slow-growing tumors that are usually found in the gastrointestinal and the respiratory tract, but may also arise from any tissue of the body.⁹ Moreover, it has been estimated that 54%–90% of carcinoid tumors that arise from the gastrointestinal system are primarily from the appendix, small bowel, and rectum.⁹

Although characterized by dawkled growth, metastasis is common. Carcinoid tumors most commonly metastasize to liver.¹⁰ In contrast, primary hepatic carcinoid tumors are extremely rare, comprising only 0.3% of all carcinoid tumors.^{10,11} Etiology and risks factors of such tumors are not completely understood. It is hypothesized that these tumors may arise from neuroepithelial cells in the biliary epithelium or from ectopic tissue in the hepatic parenchyma.^{9,10} This cancer can be asymptomatic, which leads to a delay in diagnosis. Treatment is mainly endoscopic surgical excision, although chemotherapy can also be used.

Orbital metastasis of carcinoid tumors is infrequent and regularly involves the extra ocular muscles, lacrimal gland or the uveal tract.^{12–15} Carcinoid tumors comprise approximately 4–5% of all orbital metastasis.¹² Interestingly, carcinoid tumors with origin in the gastrointestinal tract appear to have a predilection to metastasize to the orbit, while those with bronchopulmonary origin tend to metastasize to the uveal tract.¹² Our patient did not have any evidence of orbital and/or intraocular involvement.

Cutaneous metastases have been described by several authors.^{2,16} These lesions typically consist of a single brown or violaceous nodule and tend to be firm, tender, and may even ulcerate.¹⁶ They are more likely to occur in upper extremities, chest, face, and scalp.¹⁶

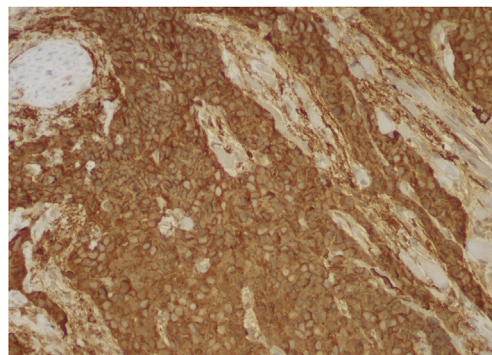


Fig. 3. Chromogranin immunostain expression of tumor cells, diffuse and strong, 20X

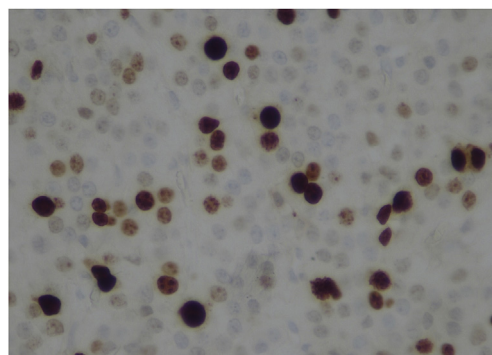


Fig. 4. Ki 67 immunostain highlights proliferating tumor cells, 40x

Furthermore, primary cutaneous carcinoid tumors have also been reported.^{2,3} However, none of these reports involve a primary hepatic carcinoid tumor metastasizing to skin and/or eyelids. Metastasis to the eyelids is a rare occurrence and may be the presenting sign of undiagnosed systemic malignancy.⁷ Several reports have described metastasis to the eyelids from pulmonary, gastrointestinal, and breast carcinoma with one reporting hepatocellular carcinoma as the primary tumor.^{7,17} Our patient had a primary hepatic carcinoid tumor that metastasized to her right lower eyelid. More importantly, this lesion masqueraded itself as a chalazion due to its location and initial appearance. This case highlights the importance of considering malignancies in the differential diagnosis of non-resolving or recurrent chalazia.

4. Conclusion

Carcinoid tumor metastasis should be included within the differential diagnosis of focal vascularized masses in the eyelid and non-resolving chalazia. Pursuing a histopathological diagnosis should be considered when encountering chalazia resilient to traditional therapeutic measures.

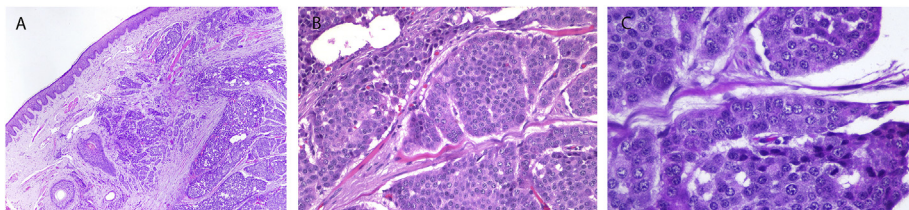


Fig. 2. A Nests of small round cells in dermis and around adnexa, H&E, 4X. B. Nests of monotonous small round cells with indistinct cytoplasm, 20X. C. At higher magnification, note small round cells with salt and pepper chromatin and indistinct cytoplasm. See mitotic figure within circle, 40X.

Patient consent

This report does not contain any personal information that could lead to the identification of the patient.

Disclosures

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