Ocular Adnexal Lymphoma in an African-American Male

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Abstract
A 68-year-old African-American male with longstanding history of lung carcinoma presents with a unilateral edematous left upper eyelid without symptomatic pain or other ocular involvement suggestive for an ocular adnexal lymphoma.

Case Report
A 68-year-old African-American male presents to the eye clinic at the St. Albans Department of Veterans Affair Medical Center with a chief complaint of blurry vision through his two-year-old glasses. He also reports irritation of the eyes that improved with artificial tears. He had been followed in the eye clinic since 2008.

Adnexal examination revealed an enlarged edematous left upper eyelid. He reported no change in size or appearance and denied pain, redness, discomfort, recent illness, trauma, and ocular surgery. He presented two years prior with this acute presentation, but was lost to follow-up. Initial differential diagnosis in April 2010 included preseptal or orbital cellulitis, insect bite, orbital fat prolapse, or idiopathic eyelid edema. At that time, there were no signs of ocular or orbital infection or inflammation. He was instructed to perform cold compresses three times daily and sleep with his head elevated to alleviate possible fluid accumulation, but he reported increased periorbital swelling in the morning while following that regimen.

He has a longstanding history of cancer cysts or masses of the neck with surgical removal in April 1999 from the right upper neck followed by radiation of the nasopharynx, oropharynx, and hypopharynx. In October 2006, he underwent a right upper lobe lobectomy for adenocarcinoma. He was diagnosed in March 2011 with an early bronchoalveolar carcinoma of unknown primary with no nodes or masses and underwent a wedge resection. In March 2012, chest imaging revealed a “feature worrisome for bronchoalveolar carcinoma.” Computed Tomography (CT)-guided biopsy of the right lower lobe mass in June 2012 showed a new diagnosis of squamous cell carcinoma. A multi-planar MRI of the brain with and without gadolinium, conducted at the same time, was negative for metastatic lesions in the brain. In addition, a partially empty sella was noted along with prominent soft tissue enhancement of the left periorbital region. In July 2012, he underwent an Endobronchial Ultrasound (EBUS)-guided mediastinal evaluation of the lymph nodes stations and the results were negative.

He is currently taking Terazosin HCL 10mg for hypertension, Simvastatin 20mg for hypercholesterolemia, Acetaminophen 325mg as needed for pain, and artificial tears twice daily for dry eyes. His medication has not changed since his initial visit in 2008. He has a history of tobacco and alcohol cessation in 1999 and denies other drug use or family history of glaucoma or blindness.
At the most recent visit, his entering acuities were 20/30 in the right eye and 20/40 in the left. Extraocular muscle motilities were full and accurate with no symptoms of diplopia, pain, or proptosis. Pupils were equal, round, reactive to light, and were negative for an afferent pupillary defect. Eyelids revealed a presumed severe orbital fat prolapse of the left upper eyelid greater than the right upper eyelid resulting in a complete occlusion of the left eye and 25% ptosis of the right. There was no significant eyelid discoloration on either eye. A mild symmetrical ptosis had been noted since 2008. When instructed to tilt his head downward, the eyelid lesion appeared to enlarge slightly as compared with the primary head posture. Anterior blepharitis, bulbar conjunctival chalasis, and grade 1 conjunctival injection were also noted. Mildly visually significant cataracts were noted with grade 2 nuclear sclerosis in both eyes, and grade 1 anterior cortical spoking in the left eye.

Intraocular pressures were consistently measured to be in the low to mid-teens in both eyes with his eyelids pinned open. Fundus examination revealed clear vitreous, healthy nerves with 0.25 vertical cupping, a flat and intact macula, normal caliber blood vessels, and an intact peripheral retina in both eyes.

The differential diagnoses for the edematous unilateral eyelid would encompass a wide range of etiologies, including inflammatory, infectious, iatrogenic, traumatic, systemic, vascular, benign, or metastatic causes. As the patient denied pain, redness, recent illness, trauma, and ocular surgery, a secondary preseptal or orbital cellulitis seemed unlikely. In most cases, patients with orbital cellulitis present within 7 to 10 days of the symptoms and have a predisposing source for the infection which progressively worsens if left untreated. He was lost to follow-up and returned several years later with a stable-appearing eyelid lesion. Per patient history, initial palliative therapy with cold compresses and elevated sleeping posture did not reduce the eyelid swelling.

The stability of the lesion implied possible orbital fat prolapse, but the lesion was found to enlarge with a downward head tilt. This finding is suggestive of a vascular abnormality isolated to the left upper lid, such as a capillary hemangioma or varix. Capillary hemangiomas are benign endothelial cell neoplasms composed of lobules of small blood vessels interspersed with sparse fibrous septa. They often present in infancy and undergo spontaneous involution during early childhood. However, there have been several reports of acquired capillary hemangiomas in elderly adults with lesions that do not present with overlying skin discoloration. In this patient, there was no marked lid discoloration or history of prior lid abnormalities. Treatment options include observation with CT or MR images, oral or injectable steroids, or interferon therapy depending on the visual and life-threatening status of the lesion.

Another vascular malformation would include a slow-growing lymphangioma which is a benign hamartoma. Only 20% of hamartomas involve the orbit and ocular adnexa with common presentation in early childhood, but onset can occur in adulthood. Proptosis is observed in 85%, ptosis in 73%, and extraocular muscle restriction in 46% of these patients. In certain instances a spontaneous intraorbital hemorrhage can occur, resulting in acute proptosis, compressive optic neuropathy, and vision loss. Lymphangiomas are believed to only involve venous malformations with a normal cell replication cycle and lymphatic shunts, but arteriovenous
malformations have also been reported. Treatment usually involves complete or multiple partial resections with standard or carbon dioxide laser-assisted surgery to improve visual prognosis and cosmetic appearance. Extraconal lesions can be fully resected while intraconal diffuse lesions require multiple partial resections.\(^9\) These unencapsulated tumors are difficult to treat since they freely interdigitate with normal orbital tissue.\(^12\) On CT or MR imaging, lymphangiomas will appear saccular, in clusters, and without venous connection.

Given the patient’s ethnicity, the lesion may represent granulomatous sarcoidosis, which has been found to involve the lacrimal gland in 63%, eyelid in 17%, and orbital in 13%.\(^8\) However, his lab tests were negative. He did not have a history of thyroid complications, and tested negative for syphilis, a masquerading disease for many conditions.

Another differential diagnosis includes eosinophilic hyperplastic lymphogranuloma resulting from abscesses filled with neutrophils and eosinophils. These lesions gradually enlarge and increase in number or can spontaneously regress with time. The most common clinical signs are proptosis, lid swelling, a palpable mass, and abnormal motility with normal clinical findings on pupil testing, tonometry, and fundoscopy. Concurrent mass lesions have been found in the parotid gland, antecubital region, breast, and lung. Treatment involves observation, excision, steroids, radiation, or chemotherapy.\(^3,6\) Recent studies report immune-mediated IgG4-related inflammation that affects the eye and systemic organs. These involve lymphoplasmacytic infiltrates of these structures. Autoimmune pancreatitis is most common, but salivary glands, thyroid, and lung involvement have been reported. The disease predominantly affects middle-aged to elderly men. Treatment has yet to be established but Rituximab is currently being investigated.\(^21\) The patients recent lab tests showed normal levels of immunoglobulins.

Due to the extensive persistent history of lung carcinomas, this lesion is likely a metastatic lesion of the left upper lid. Although rare, primary non-Hodgkin lymphoma involving small B-cell lymphoma cells can also affect the adnexa in 1-3% of patients, with 80% presenting unilaterally. These adnexal lymphoma account for 5-20% eyelid involvement with 60-80% resembling mucosa-associated lymphoid tissue (MALT) lymphoma. Ocular adnexal lymphoid proliferation is commonly seen in patients in the fifth and seventh decades of life with median diagnosis at age 63.5 years.\(^21\) It affects women more than men and favors the superior anterior orbit. Treatment for these lesions includes external beam radiotherapy as the gold standard treatment, chemotherapy, radiation, or combined radiation with chemotherapy. In cases of relapse, Rituximab, a monoclonal antibody treatment, showed favorable results.\(^5,7,17\) Further imaging, such as an orbital MRI, and a possible biopsy of the lesion would be required for a definitive diagnosis in this case. At this time, the patient is scheduled in September 2012 for an orbital MRI with and without contrast.

Despite the relatively quiet presentation of this eyelid lesion, it is important to obtain a thorough understanding of a patient’s ocular and medical histories. The patient presented with a complaint for blurred vision through his spectacles, but clinical examination revealed a slow-growing metastatic eyelid lesion. Although he is already undergoing numerous systemic tests, this case highlights the importance of obtaining a proper work up and the role of healthcare providers in making the correct referral.
References


