“Look Up” - How A Routine Eye Exam Led to MALT Lymphoma Diagnosis
by Rachel Ferguson O.D.
Co-authors: Anthony Van Alstine O.D. FAAO; William McGill O.D. FAAO

Abstract:
Patient presents for routine eye examination which reveals a lesion of the lower palpebral conjunctiva. Biopsy reveals MALT lymphoma. PET scan and bone marrow biopsy are negative for metastatic disease.

I. Case History
A. Patient demographics: 65 year old Caucasian male
B. Chief complaint: routine eye exam
C. Ocular, medical history: Hyperopia, xanthelasma, heart disease (v-fib)
D. Medications: atenolol, cholestyramine, omeprazole
E. Other salient information: No history of cancer or ocular surgeries/laser procedures. No ocular complaints pertaining to the eyes or vision.

II. Pertinent findings
A. Clinical: Entering acuities were 20/20 OD, OS. Pupillary testing, extraocular motilities, and intraocular pressures were normal. Slit lamp examination OD revealed a large, elevated, multilobulated, fleshy lesion of the lower palpebral conjunctiva extending to the fornix with intrinsic blood vessels. No symblepharon or ulcerations were noted. Slit lamp examination OS and dilated fundus examination OU were unremarkable. High resolution photos of the lesion are available before and after treatment.
B. Physical: Unremarkable. Patient denies fatigue, fevers, night sweats, and weight loss. No tender or palpable lymph nodes present in the cervical, supracalvicular, axillary or inguinal areas.
C. Laboratory studies: Biopsy revealed extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue, clinical stage IE MALT lymphoma. CD 20 cells were positive in the atypical lymphoid cells. Bone marrow biopsy was negative for any morphologic and flow cytometry evidence of lymphoma.
D. Radiology studies: Orbital MRI was unremarkable. PET scan was negative for metastatic disease
E. Others: Laboratory and Radiology testing reveals localized MALT lymphoma. No evidence of disease elsewhere in the body.

III. Differential diagnosis
A. Primary/leading: MALT lymphoma typically presents as a painless ‘salmon fleshy patch’ on the conjunctiva, and over half occur on the inferior fornix. Patients can be asymptomatic, as seen in this case, or may experience redness, irritation, itching, and watering. It can be difficult to differentiate between lymphoma and other causes of ocular inflammation, and is critical to perform histological testing to distinguish benign from malignancy in order to initiate proper treatment.
B. Others: Benign reactive lymphoid hyperplasia, chronic follicular conjunctivitis

IV. Diagnosis and discussion
A. Elaborate on condition: Ocular adnexa marginal zone lymphoma (OAML) is the most common primary orbital malignancy with MALT being the most common subtype accounting for 38%-64% of cases. Incidence rate is steadily increasing at 6% annually. MALT lymphoma can occur in either the conjunctiva or the orbit and can involve
surrounding structures including the lacrimal gland and extraocular muscles. OAML typically affects elderly patient with a median age of 65 years with a higher prevalence among females.

B. **Expound on unique features:** This was an unforeseen finding during the eye exam as the patient was asymptomatic and unaware of the lesion. Many potential etiologies have been proposed including immunologic, genetic, and infectious factors. The alteration of immune response and local chronic antigenic stimulation in autoimmune diseases can lead to genetic instability, resulting in the development of organized lymphoid tissue. Infectious agents have also been investigated in playing a role. *Chlamydia, Helicobacter pylori,* human herpesvirus, Epstein-Bar virus, and hepatitis C virus have all been isolated in individual studies with results ranging from strong associations to limited/no association. There is no conclusive evidence regarding a major risk factor for OAML, and is likely a multifactorial condition involving multiple extrinsic and intrinsic factors.

V. **Treatment/Management**

A. **Treatment and response to treatment:** The patient was given the option to observe or initiate radiation therapy. Those with clinical stage I who chose observation showed similar outcomes to those who received immediate radiotherapy with a 10-year overall survival rate of 94%. Observation is thoughtfully considered for selected patients who are elderly or have severe comorbidity, and in those with localized and asymptomatic disease. This patient chose to proceed with radiation therapy using 6meV electrons in an en face technique to deliver a total dose of 2520 cGy over the course of 14 days. The most common side effects include conjunctivitis, dry eye, and cataract. Clinically, the conjunctival lesion completely resolved before the end of treatment, and recent PET scans reveal no evidence of disease. There is no standard treatment for localized disease, however radiation therapy is most common, and yields a successful outcome. Other forms of treatment to consider include chemotherapy, immune-modulating therapy, antibiotics, surgical excision, or combination therapy. The prognosis is favorable, however 20% eventually progress to disseminated disease. Therefore, routine imaging and follow-up in necessary to monitor for any recurrence.

B. **Bibliography:**


VI. **Conclusion**

Regular eye examinations play an important role in the overall management of one’s health. With suspicious lesions, a biopsy is critical to differentiate benign from malignant.