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Case Report

Radiation Therapy in a Case of Orbital Lymphoma

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Abstract:
Introduction: Orbital lymphoma is a rare presentation of extranodal non-Hodgkin's lymphoma, accounting for less than 1% of the total. The role of radiotherapy in its management is well-established. This is a report of a case of orbital lymphoma
Materials and Methods: Clinical records and pathologic material of a patient woman of 62 age treated with local radiotherapy for localized orbital lymphoma. Treatment consisted of 36 Gy in 1.8-Gy fractions of irradiation using 6-MV photons with complex treatment planning for retrobulbar lesions. Median follow-up was 18 months
Results: Local control was 100%. Cataracts was not observed in 8 of the treated eyes.
Conclusion: In this case, localized orbital MALT lymphoma was well controlled with radiotherapy.
Key Words: Eye, Non-Hodgkin's lymphoma, Orbit, Radiotherapy

Introduction:

An extranodal marginal zone B-cell lymphoma of mucosa associated lymphoid tissue (MALT lymphoma), first described in 1983 by Isaacson and Wright, was recognized in 1994 as a distinct entity of low-grade B-cell lymphoma in the revised European-American lymphoma (REAL) classification among marginal zone B-cell lymphomas, as well as in the most recent classification of the World Health Organization (WHO).[1-3] For localized MALT lymphoma, radiotherapy is the most frequently applied management, and most patients show good response to radiotherapy, although several recent reports suggest that radiotherapy alone may not provide for a superior outcome.[4-8] For the management of lymphomas in the ocular adnexa, especially for localized disease, radiotherapy is a safe and effective form of local treatment. Histology according to the REAL or WHO classification can be used to accurately predict the prognosis of lymphomas in the ocular adnexa, and the MALT type has a more favorable prognosis than do malignant lymphomas of differing histology Although there have been few analyses of large numbers of MALT lymphomas in the ocular adnexa, its prognosis is thought to be better.

Case Report:

A 62-year-old woman consulted a nearby hospital because of left exophthalmus in May 2004, and was treated with eye drops (betamethasone sodium phosphate) for the diagnosis of pseudolymphoma. Two years later, he developed exophthalmus and orbital pain, and consulted the department of ophthalmology of our hospital. Computed tomography (CT) showed a left intra-orbital extraconal tumor (Fig. 1).

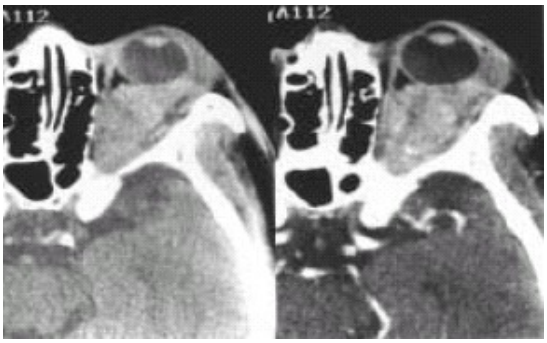

Fig 1: Non-contrast (right) and post-contrast computed tomography (CT) scans show the homogenous soft tissue mass adherent to the ocular wall extending from the anterior to posterior of the globe.

An excision biopsy was performed in the spring of 2006, and the findings of immunohistopathologic examination revealed a MALT lymphoma. Full body CT and bone marrow biopsy revealed stage I AE, and the IPI (international prognostic index) indicated a low-risk group. She was referred to our department of radiology to receive radiation therapy. She was irradiated with a dose of 3600 cGy in 20 fractions using a 6 MV X-ray. Left anterior oblique and a right anterior oblique fields with a 60° wedge were delivered to the left orbita. The tumor decreased markedly in size (Fig. 2) on CT after the completion of radiation therapy. In December 2006. Although his visual acuity decreased from 0.1 (0.4) to 0.1 (0.1), no relapse was noted during the two-year follow-up.

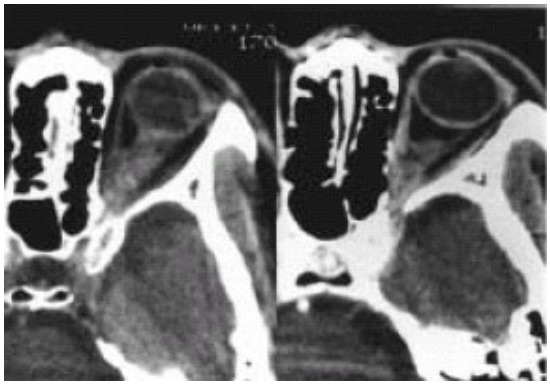

Fig 2: The orbital mass was decreased in size after the completion of radiation therapy.

Discussion:

The cause of orbital MALT lymphoma is not known. Fifty-five percent of malignant tumors arising in the orbita are malignant lymphomas.6 MALT lymphoma is the most common, accounting for 38%, followed by follicular center lymphoma at 29%, diffuse large B cell lymphoma at 19%, and mantle cell lymphoma at 7%. Its prognosis is considered to be somewhat better than that of MALT lymphoma of other sites,[8] and radiation therapy is an excellent modality for treatment. Radiotherapy is a well-established treatment modality for orbital lymphoma.. Primary chemotherapy has minimal efficacy in localised low-grade orbital lymphoma and thus is not advocated as a first-line treatment.8 Different radiation techniques can be used depending on the extent of involvement. For tumours limited to the eyelids, superficial radiation with electrons or orthovoltage is adequate. However, the majority of orbital lymphomas have involvement of the retrobulbar structures. These lesions require the entire orbit to be included in the radiation portals. This can be accomplished by using a wedge pair arrangement or a direct field. There have been numerous series advocating low dose radiation for treatment of orbital lymphomas.[9-10] In general, 30 Gy is recommended for low grade lymphomas and 40 Gy for intermediate grade lymphomas. In our serie, the prescribed dose was 36 Gy. Cataracts are a complication of radiation to the orbit. When doses to the lens exceed 15 Gy, there is a 50% chance of cataract formation and hence, visual impairment. The time to cataract formation is 3 to 8 years after radiation. Esik et al[11] reported that unshielded >20 Gy will result in cataract formation if follow-up time is adequate, but they did not specify the time interval required. Various techniques of lens shielding have been devised. However, care must be taken that the tumour is not inadvertently shielded as well. Other complications of radiation

to the eye for orbital lymphoma include: dry eye syndrome, and rarely glaucoma. Long-term local control of orbital lymphoma can be achieved with radiation therapy.

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