Primary Lymphoma of the Larynx: A case report

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Consent

Consent was obtained from the patient for the publication of this case report and accompanying images. A copy of the written consent form is available for review by the Editor-in-Chief of this journal upon request.

Conflict of interest We, hereby declare that we have no conflict of interest to disclose in relation to the manuscript titled "Primary Lymphoma of the Larynx: A case report" submitted for publication. We affirm that there are no financial, personal, or professional affiliations or relationships that could influence the objectivity, integrity, or validity of the work presented in this manuscript. Should any conflicts of interest arise after the submission of this declaration, We commit to promptly notifying the relevant parties involved.

Introduction:

Marginal zone lymphoma corresponds to a sub-type of non-Hodgkin lymphoma stated to arise from post-germinal center memory B cells of marginal zone type that derive from and multiply anatomically in extranodal, splenic, and nodal tissues respectively in MALT, splenic, and nodal type lymphomas (1). Furthermore, Extranodal marginal zone lymphoma or MALToma is most commonly localized in the stomach; other common sites include the eyes and ocular adnexa, skin, lungs, salivary glands, breasts, and thyroid. It is rarely seen in the larynx which has only been reported in approximately 30 cases so far after the first case reported in 1990. (2) Herein, we present a case of supraglottic low grade marginal zone lymphoma of the larynx.

CLINICAL REPORT:

A 78-year-old male was evaluated in the ENT OPD of our hospital with the only complaint of progressive hoarseness for 6 weeks. He had no history of weight loss, fever, and night sweats. The past, family, and medical history of the patient were not of significant note. On physical examination, the superficial cervical lymph nodes were not enlarged. Plain and contrast-enhanced MDCT of the neck showed a welldefined lesion of size 22 x 17 mm predominantly involving the right side of the supra glottis of the larynx. In the post-contrast study, the lesion showed significant enhancement involving the right aryepiglottic fold and causing the ipsilateral pyriform sinus narrowing.

On nasopharyngolaryngoscopy, a right false vocal cord mass was seen. The specimen after direct laryngoscopy biopsy revealed multiple bits of gray-white to gray-brown soft tissue measuring 1x1x0.5 cm. Histologically, the section showed multiple fragments of tissue lined by stratified squamous epithelium. The subepithelium showed sheets of small monomorphic lymphoid cells having round hyperchromatic nuclei, inconspicuous nucleoli, and scant cytoplasm.(Figure 1 A) Extensive crushing artifactual changes were noted. These cells are also seen infiltrating in between mucus glands. (Figure 1 B) Few skeletal muscle fragments are also observed. Furthermore, immunohistochemistry revealed small B cells positive for CD20, BCL2, and CD21. Immunohistochemistry for CD3, CD10, CD5, CD43, CD23, CD138, and Cyclin D1 were negative. The above findings confirmed the diagnosis of low-grade extranodal marginal zone lymphoma.

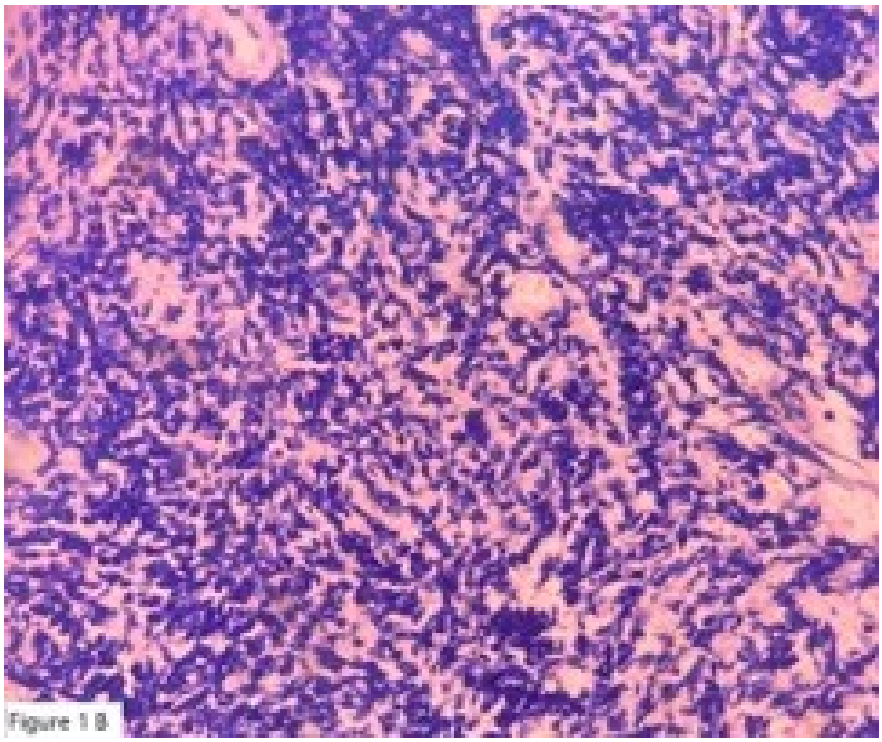

Figure 1 A: H&E section shows diffuse discohesive sheets of small round cells having inconspicuous nucleoli and scant cytoplasm.

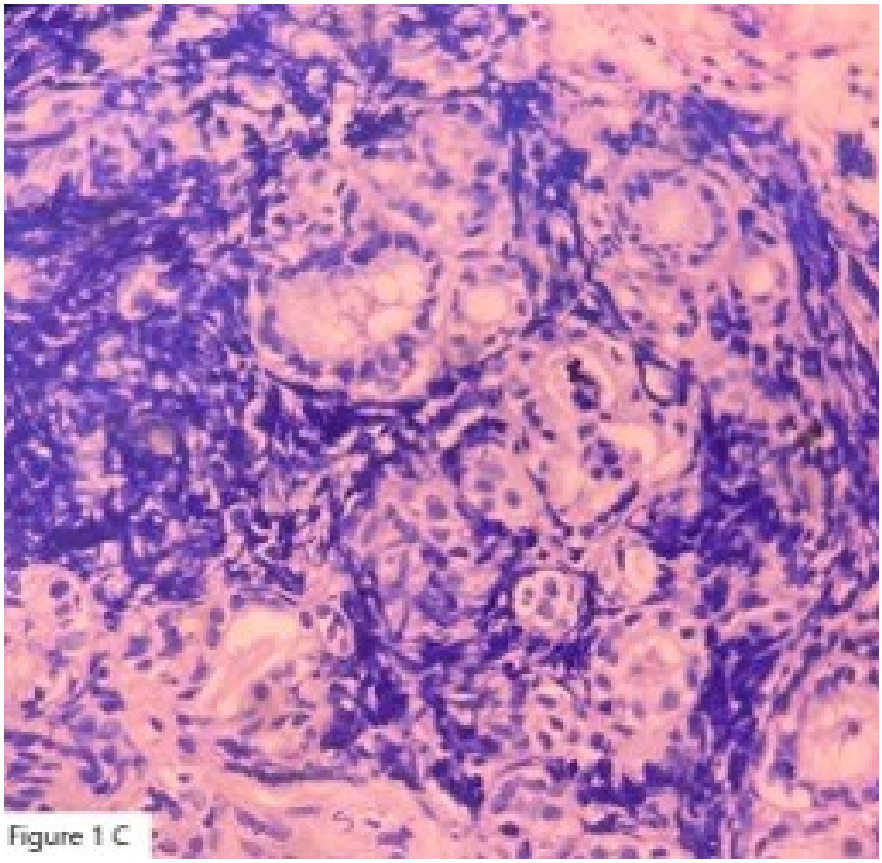

Figure 1 B: H&E section shows crushing artifactual changes with round blue cells infiltrating in between the benign glands.

Discussion

Primary lymphoma in the larynx is an extremely rare disease contributing to less than 1 % of all laryngeal malignancies.(3) Although squamous cell carcinoma is the most common neoplasm seen in the larynx, it is necessary to keep the differential diagnosis broad including lymphoma of the larynx. (4)

MALToma commonly presents in the stomach accounting for 35 % of all cases but rare occurrences in the larynx have been reported. The majority of the patients with MALToma present with symptoms in Stage I and II which depend upon its localization. (1) MALT lymphoma has been associated with a history of chronic inflammatory disorders which may be the result of infection, autoimmunity, or unknown other stimuli. (1) Furthermore, there is a well-established association between H. pylori and gastric MALToma. (5) However, with MALT lymphoma of the larynx, the pathophysiological association with H. pylori is not established. Furthermore, infrequent presentation of MALT lymphoma in the larynx makes building any kind of such association with H. pylori or other stimuli challenging. (6) Likewise, there wasn't any such chronic inflammatory condition present in our case.

The common symptoms of extranodal laryngeal lymphoma are hoarseness, dysphagia, pharyngalgia along with B symptoms. (7) Primary laryngeal lymphoma usually affects the supraglottic area with or without the involvement of the glottic or subglottic area. (8) In contrast-enhanced CT, most primary laryngeal lymphomas are usually homogenous with contrast enhancement. (9) Histologically, the characteristics of MALToma are similar regardless of the site of their origin. The microscopic features of marginal zone B cells are small to medium-sized, irregular nuclei with moderately dispersed chromatin and inconspicuous nucleoli,

similar to those of centrocytes, and relatively abundant, pale cytoplasm.

However, Immunophenotype is a mandatory investigation for confirming the diagnosis. The neoplastic cells of MALT lymphoma express B cell-associated antigens CD20, and CD79, and are usually negative for CD5, CD10, CD23, and Cyclin D1.(1) As in our case, CD21 staining indicates expanded meshworks of follicular dendritic cells corresponding to colonized follicles. Like other low-grade lymphoproliferative disorders which stain positive for BCL2, here also it demonstrates low grade contrary to high-grade lymphomas. (10)

MALToma is usually indolent with recurrences that can occur after many years in other extranodal sites. (1) It has a desirable prognosis of a 5-Year relative survival rate $> 80\%$ but varies depending on the site of origin. (11) Rarity of these cases has made it difficult to establish a consensus on their prognostic factors and choice of treatments. The international guidelines recommend radiotherapy to be the preferred choice for localized non-gastric MALT lymphomas. A moderate dose (25-30 Gy) of radiation has shown a high rate of local control even in patients with local recurrences. Contrary to gastric MALT lymphomas, where antibiotic therapy to eradicate H. Pylori is the wellestablished standard of care, the role of antibiotic therapy is unclear and not recommended. Although the choice of treatment for severe or recurrent cases has not been certain, chemotherapy with chlorambucil in combination with rituximab has shown better results.(12)

Conclusion:

Although extranodal marginal zone lymphoma or MALToma of the larynx is a rare disease without any specific signs and symptoms, it should be considered in the differential diagnosis of a mass in the larynx. It has been difficult to generate a consensus regarding its management due to few cases, more case reports and research are necessary to better understand the disease and establish a treatment plan.

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