



Ma. Katrina C. Tagata, MD

Department of Otolaryngology-Head and Neck Surgery
Victoriano Luna Medical Center

Mucosa-Associated Lymphoid Tissue (MALT) Lymphoma of the Nasopharynx in a 21-Year-Old Woman: A Case Report

ABSTRACT

Objective: To report a case of Mucosa-Associated Lymphoid Tissue (MALT) lymphoma of the nasopharynx in a young woman, and its clinical presentation, laboratory findings and management.

Methods:

Design:	Case Report
Setting:	Tertiary Government Training Hospital
Patient:	One

Results: A 21-year-old woman with a four-month history of right lateral neck mass managed as a case of clinically diagnosed pulmonary tuberculosis consulted us. Nasal endoscopy showed an erythematous, non-ulcerating exophytic mass in the nasopharynx. Histopathologic, immunohistochemical and PET-CT imaging studies confirmed MALT. She completed seven sessions of chemotherapy and is currently in complete remission.

Conclusion: MALT lymphoma of the nasopharynx is rare and may mimic other head and neck tumors both clinically and histologically. A high index of suspicion, thorough examination of Waldeyer's ring, and confirmatory immunohistochemistry are essential for timely and accurate diagnosis of this uncommon but treatable malignancy.

Keywords: *MALT lymphoma; extranodal marginal zone lymphoma; nasopharynx*

Lymphoma is the second most common malignancy found in the head and neck region after squamous cell carcinoma and can be subdivided into non-Hodgkin and Hodgkin lymphoma, with the former occurring 5x more frequently in the head and neck region than the latter.¹ Classified under non-Hodgkin lymphoma, extranodal marginal zone Mucosa-Associated Lymphoid Tissue

Correspondence: Dr. Ma. Katrina C. Tagata
Department of Otolaryngology-Head and Neck Surgery
Victoriano Luna Medical Center
J3M2+WX3, V. Luna Ave, Diliman, Quezon City 1100
Philippines
Phone: +63 917 594 1193
Email: mkct111@gmail.com

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(MALT) lymphomas have been described in nearly every anatomic site but are most frequently found in the stomach.² Less frequently, MALT lymphomas may arise within the head and neck, with rare involvement of the nasal cavity and nasopharynx.² The clinical course is usually indolent, and presents with non-specific symptoms and clinical signs making diagnosis challenging.^{1,3,4} This report describes a case of MALT lymphoma of the nasopharynx in a 21-year-old woman and present its clinical presentation, laboratory findings and management.

CASE REPORT

This is a case of a 21-year-old woman with a four-month history of right lateral neck mass. Seven months prior to consult, she experienced right ear fullness with associated ipsilateral hearing loss but no associated ear discharge, tinnitus, dizziness, epistaxis or nasal congestion. The symptoms spontaneously resolved after one month, and no consult was done nor were any medications taken.

Four months before consult, the patient noted a 2 x 2 cm firm, nontender right level II neck node with no associated cough, colds, sore throat, weight loss, night sweats or fever. A chest radiograph showed a right hilum mass while chest CT Scan findings were suggestive of pulmonary tuberculosis, and she was managed as a case of clinically diagnosed pulmonary tuberculosis and given tuberculosis medications. The past medical history was unremarkable. Her family history revealed a history of lung cancer in the maternal side but no known history of pulmonary tuberculosis. The patient was a non-smoker and a non-alcoholic beverage drinker.

On consultation in our department, there was no palpable neck mass. Nasal endoscopy revealed an erythematous, non-ulcerating exophytic mass in the nasopharynx. (Figure 1) The remaining structures of Waldeyer's ring appeared normal with no lesions or enlargement. Other ORL-HNS physical examination findings were unremarkable. Considering nasopharyngeal carcinoma, a punch biopsy was performed.

Histopathology revealed intact pseudostratified columnar ciliated cells with a dense cellular underlying stroma (Figure 2A) infiltrated with relatively small to medium-sized mononuclear cells exhibiting open nuclear chromatin, inconspicuous cytoplasm with mild nuclear membrane irregularities, accompanied by few eosinophils. (Figure 2B) Immunohistochemistry revealed strong cytoplasmic membrane expression of CD20 in the neoplastic B-lymphocytes (Figure 3A), negative staining of CD3 (Figure 3B) and CD5 in cells of interest. (Figure 3C). Findings were compatible with extranodal marginal zone lymphoma of MALT. The patient was referred to the oncology service for further evaluation and management.

A neck ultrasonogram revealed no cervical lymphadenopathy while

a PET-CT Scan revealed hypermetabolic thickening in both sides of the nasopharynx and hypermetabolic sub centimeter to enlarged bilateral cervical lymph nodes. (Figure 4) Other significant findings that were probably related were hypermetabolic sub-centimeter to enlarged right prevascular-paraaortic, paratracheal, subcarinal and porta-caval lymph nodes with central necrosis in the larger lesions and sub-centimeter left hilar paraaortic, and aortocaval nodes. The patient was managed as a Stage III extranodal marginal zone lymphoma with concurrent clinically diagnosed pulmonary tuberculosis.⁵

She completed 7 cycles of rituximab, cyclophosphamide, doxorubicin, vincristine and prednisone (RCHOP) protocol and has been in remission for the past 3 years.

DISCUSSION

MALT lymphoma, a low-grade B-cell neoplasm within the spectrum of non-Hodgkin extranodal lymphoma, is typically associated with chronic infection such as *Helicobacter pylori*-induced gastritis or autoimmune disease such as Hashimoto thyroiditis or Sjögren syndrome.^{2,5,6} While the stomach is most frequently affected, other sites include the skin, lungs, eyes, salivary glands and thyroid.¹⁻³ Nasopharyngeal involvement is exceedingly rare.³ Hsueh *et al.* documented only 3 cases of nasopharyngeal MALT lymphoma among 35 nasopharyngeal lymphoma cases over 22 years in Taipei.⁴ Allam *et al.* reported a single case in an 11-year review of 26 non-Hodgkin nasopharyngeal patients in Morocco.⁷ To the best of our knowledge, no cases among Filipinos have been published to date based on searches of HERDIN Plus, the Western Pacific Region Index Medicus (WPRIM), the Directory of Open Access Journals (DOAJ) and MEDLINE (PubMed and PubMed Central) using the search terms "mucosa-associated lymphoid tissue lymphoma nasopharynx," "extranodal marginal zone lymphoma nasopharynx," "nasopharyngeal MALT Lymphoma," "Philippines MALT Lymphoma," and "nasopharyngeal lymphoma."

MALT lymphomas often present beyond the fifth decade of life with nonspecific symptoms—neck mass, nasal obstruction, epistaxis, or aural fullness—often mimicking benign head and neck conditions.^{1,4,7} Their indolent behavior including waxing and waning lymphadenopathy may delay diagnosis.⁶ In our patient, a transient cervical lymphadenopathy prompted endoscopic evaluation, revealing a bilateral nasopharyngeal mass. Given the role of Waldeyer's ring as a reservoir for extranodal lymphoma, biopsy was warranted. Histopathologic confirmation by immunohistochemistry and flow cytometry remains the gold standard for diagnosis.^{5,6}

Microscopically, the neoplastic cells appear centrocyte-like—small to medium-sized with irregular nuclei—typically arranged in a marginal pattern around lymphoid follicles.⁵ Histopathologically,

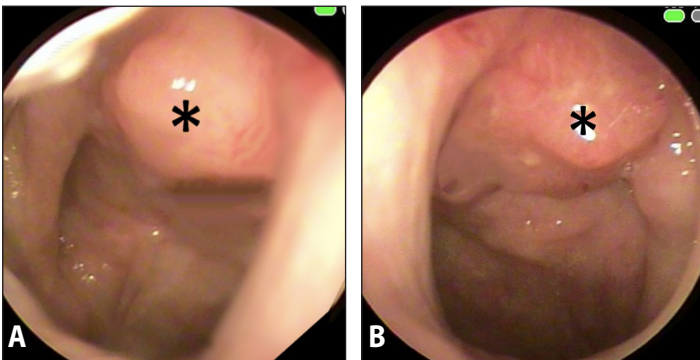


Figure 1. Nasal endoscopy showing an erythematous, non-ulcerating exophytic mass (asterisk) in the A. right and B. left nasopharynx

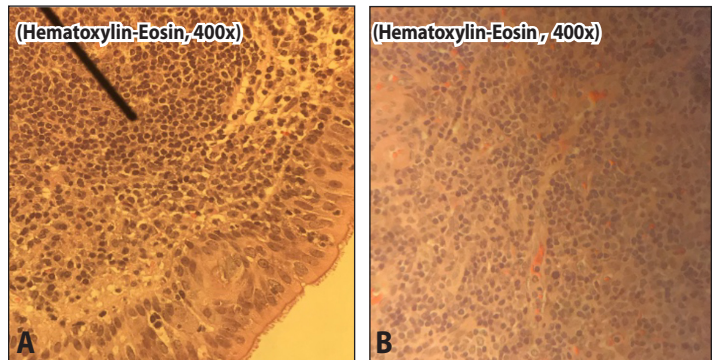


Figure 2. Histopathologic slides, Hematoxylin-Eosin, 400x magnification. A. Intact respiratory epithelium overlying densely cellular stroma (tip of pointer). B. Mononuclear infiltrate with scattered eosinophils

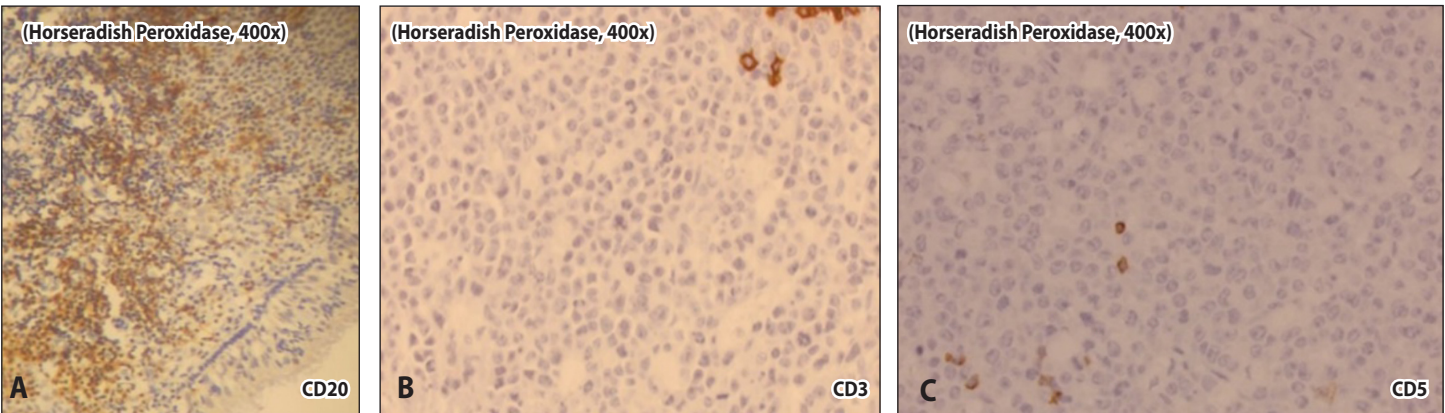


Figure 3. Immunohistochemistry slides, horseradish peroxidase, 400x magnification, showing: A. CD20-positive neoplastic B-lymphocytes; B. CD3-negative; and C. CD5-negative

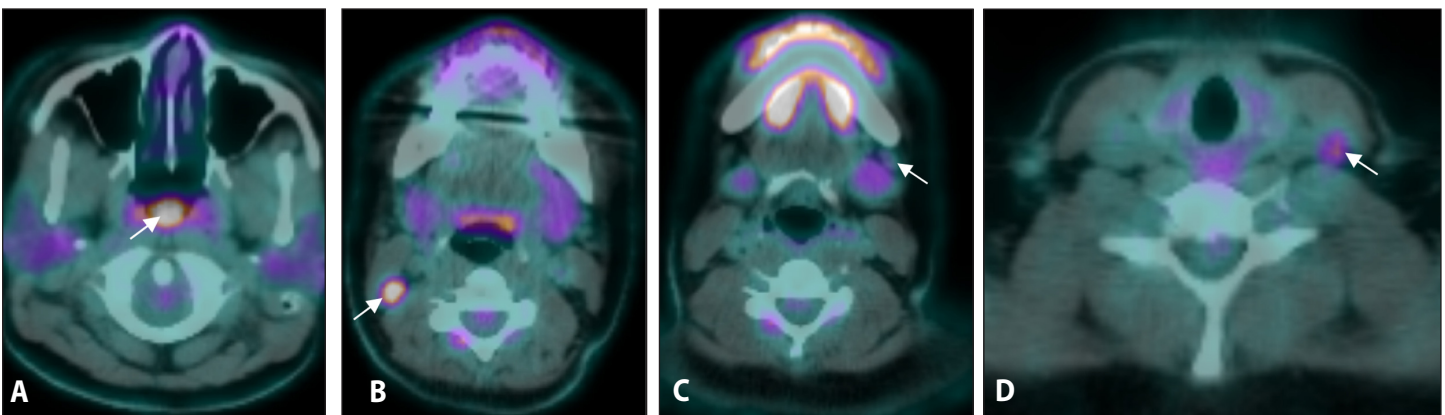


Figure 4. PET CT SCAN Images showing: A. Thickening in both sides of the nasopharynx with increased F-Fluorodeoxyglucose (FDG) uptake (arrow); B. Sub centimeter to enlarged right level IIA, IIB nodes, largest measuring 1.2 x 1.4cm (arrow) and VB lymph nodes with increase in FDG uptake; C. Sub centimeter left level IIB, left retromandibular node (arrow); and D. Left level V node (arrow) with increased FDG uptake

they form lymphoepithelial lesions, infiltrating and distorting normal epithelial structures.¹ This histologic overlap with reactive lymphoid hyperplasia—particularly in the nasopharynx—necessitates immunohistochemical evaluation.^{1,5} Typically, MALT lymphoma stains negative for CD3, CD5, and CD43, and positive for CD20 with light chain

restriction.⁵ This CD20 expression supports targeted therapy using anti-CD20 monoclonal antibodies.^{2,9} Pancytokeratin immunoreactivity, as observed in this case, highlights the typical lymphoepithelial lesions that arise when MALT lymphoma cells, originating from the marginal zone around reactive follicles, secondarily invade epithelial tissue.¹

Staging follows the Lugano classification, which refines the Ann Arbor system by integrating PET-CT and simplifying stage grouping.⁸ While most MALT lymphomas are localized (Stage I), up to 30% may be disseminated.⁵ This patient's bilateral nodal involvement across the diaphragm corresponds to Stage III.⁸

Management is guided by the NCCN Clinical Practice Guidelines In Oncology (NCCN Guidelines[®]).⁹ For localized disease (Stage IE or contiguous Stage IIE), involved-site radiation therapy (ISRT) offers high local control.⁹ Complete surgical resection may be considered in select sites.⁹ For advanced or multifocal disease (Stage IV), systemic chemotherapy regimens are recommended such as the management for this patient.⁹

Despite a propensity for relapse, MALT lymphomas generally follow an indolent course and have a favorable long-term prognosis.² The prognosis of nasopharyngeal MALT is unknown but for gastric MALT lymphoma patients' five-year lymphoma-specific survival exceeds 90%,

including in advanced stages.² Our patient remains cancer-free since treatment 3 years ago.

MALT lymphoma of the nasopharynx is a rare and diagnostically challenging entity that can clinically mimic other head and neck tumors and histopathologically resemble benign lymphoid hyperplasia or other malignancies. Its often subtle, fluctuating symptoms—such as waxing and waning cervical lymphadenopathy—may delay diagnosis. This case underscores the importance of a high index of suspicion, particularly in young adults presenting with persistent lymphadenopathy, and highlights the critical role of comprehensive evaluation of Waldeyer's ring, including nasal endoscopy. Definitive diagnosis requires meticulous histopathologic examination and the use of immunohistochemistry and ancillary studies. Early recognition of this uncommon yet treatable disease is essential to avoid misdiagnosis and ensure timely, appropriate management.

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