ramr
American Review of Respiratory Medicine
Revista Americana de Medicina Respiratoria

CASE REPORT

ISSN 1852-236X

Massive Diffuse Nodular Endobronchial Lesions in a Patient with Non-Hodgkin Lymphoma

Lesiones difusas nodulares endobronquiales masivas en paciente con linfoma No Hodgkin

Chung Kyu, Tai[1]; Alberini, Nicolás[1]; López Araoz, Alberto[1]; Videla, Alejandro J.[1]

Received: 08/16/2023
Accepted: 02/02/2022

Correspondence
Kyu Tai Chung. E-mail: kchung@cas.austral.edu.ar

ABSTRACT

Thoracic involvement occurs in 50% of the cases of non-Hodgkin lymphoma. Bronchial involvement is rare. We describe the case of a patient with suspected lymphoproliferative disease and pulmonary infiltrates. The bronchoscopy revealed prominent diffuse nodular images throughout the bronchial tree. The bronchial biopsy yielded a diagnosis of marginal non-Hodgkin lymphoma, and the patient had a good response to chemotherapy.

Key words: Non-Hodgkin lymphoma; Dyspnea; Bronchoscopy

RESUMEN

El linfoma No Hodgkin compromete en un 50% de los casos estructuras intratorácicas, siendo infrecuente la afectación bronquial. Presentamos el caso de una paciente con sospecha de enfermedad linfoproliferativa e infiltrados pulmonares. En la broncoscopia se observaron imágenes nodulares difusas prominentes de todo el árbol bronquial. La anatomía patológica de la biopsia bronquial fue compatible con Linfoma No Hodgkin marginal y la evolución con quimioterapia fue favorable.

Palabras clave: Linfoma No Hodgkin; Disnea; Broncoscopía

INTRODUCTION

0.4% of body tumors corresponds to endobronchial neoplasms[1], while less than 1% of intrathoracic tumors correspond to pulmonary non-Hodgkin lymphoma (NHL)[2]. We report the case of a patient with diffuse endobronchial involvement due to its very low frequency.

CASE REPORT

A 50-year-old woman under hematology follow-up for suspected monoclonal gammopathy was referred to the pulmonology department due to a dry cough, bilateral hearing loss, nasal congestion, and class II functional dyspnea with more than 3 months of evolution, along with a weight loss

Rev Am Med Resp 2024;24:99-102
https://doi.org./10.56538/ramr.BZOY6094

[1] Pulmonology Service, Hospital Universitario Austral, Pilar, Provincia de Buenos Aires, Argentina

of 10 kg in 5 months. On physical examination, she presented with an oxygen saturation of 97%, heart rate of 80/min, and a respiratory rate of 18/min, with no significant findings except for a nasal voice. The laboratory analysis showed: white blood cells, 4330/μl with segmented neutrophils: 42%; lymphocytes: 45%; monocytes: 10%; eosinophils: 2%; hemoglobin: 12.5 g/dl; hematocrit: 40.1%; platelets: 156,000/μl; erythrocyte sedimentation rate: 64 mm/hr.

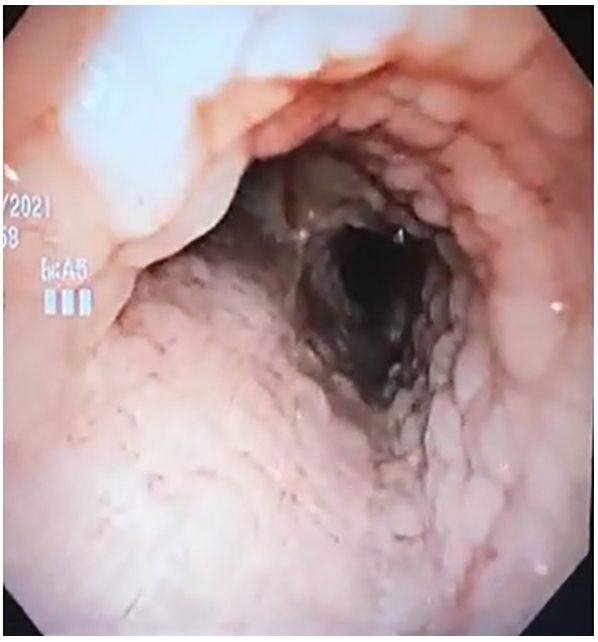

Figure 1. Endoscopic view of the vocal cords. Supraglottic and infraglottic nodular formations are observed, explaining the patient's dysphonia.

A chest CT scan was performed, showing diffuse and bilateral centroacinar micronodules predominantly in the upper and middle lobes, with micronodules present in the fissures. A right paratracheal adenomegaly of 11mm was reported.

The interpretation was micronodules in a miliary pattern suggesting sarcoidosis.

Abdominal cuts revealed a homogeneous splenomegaly measuring 14 × 11 × 8 cm and a 13 × 18 mm adenomegaly in the liver hilum.

A bronchoscopy was scheduled. Its visual examination showed nodular formations in the glottis. The trachea and bronchial trees exhibited multiple nodular formations in the mucosa, reducing the lumen throughout the entire length. Bronchial biopsies were taken.

The pathological anatomy of the bronchial biopsy reported non-Hodgkin B-cell lymphoma (NHL) of the extranodal marginal zone (WHO 2017). Subsequently, a total-body positron emission tomography (PET) with image fusion was performed, revealing multiple sites of uptake above and below the diaphragm, involving the lymph nodes, spleen, gastric upper part, bronchial walls, lung parenchyma, and bone marrow. Additionally, a bone marrow biopsy confirmed cellular infiltrates compatible with non-Hodgkin lymphoma. The patient was treated with R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone) for 6 cycles with excellent evolution.

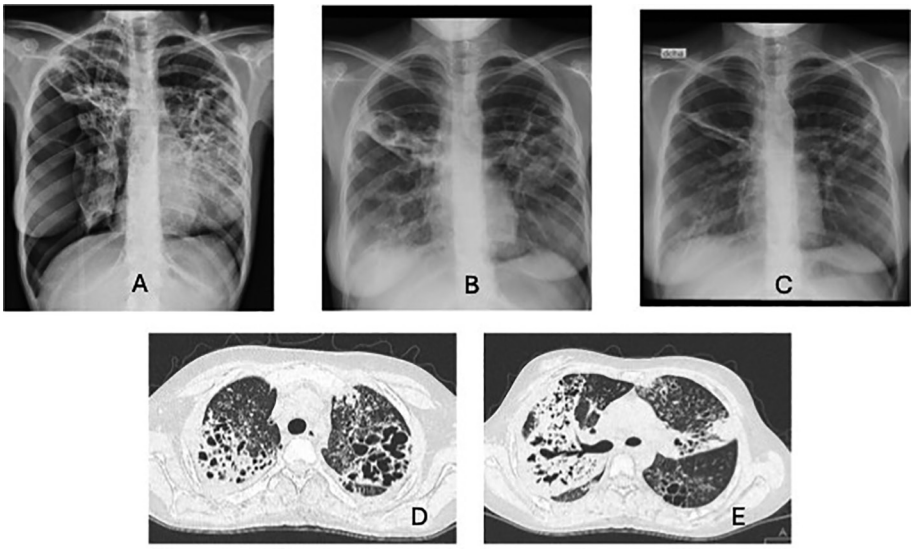

Figure 2. Endoscopic view of the trachea.

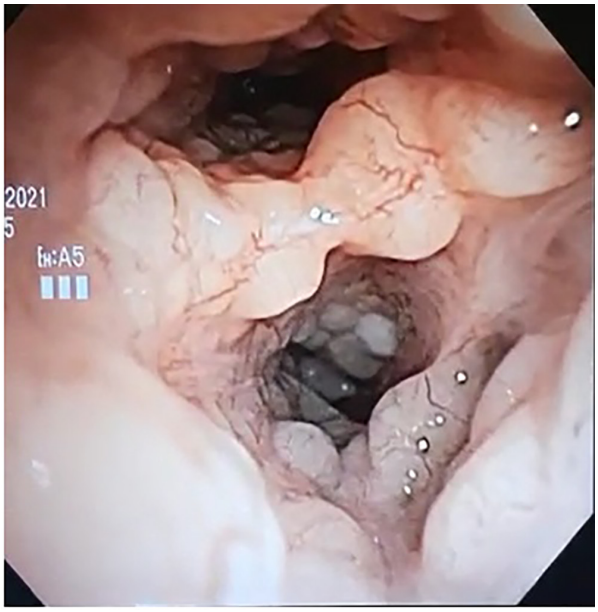

Figure 3. Endoscopic view from the intermediate bronchus. The mucosa is covered by nodular formations in the bronchi of the middle lobe and the right lower lobe.

The hearing loss, nasal congestion, and normal voice were restored. The patient is currently in remission and under follow-up by the hematology department.

DISCUSSION

Non-Hodgkin lymphoma (NHL) ranks as the seventh most common cancer, with an incidence in the United States of 18.6/100,000 and a mortality rate of 5.1/100,000 in 2018. The overall 5-year survival rate for different NHL forms is approximately 72.7%[3]. Thoracic involvement in NHL can occur in up to 50% of cases during the course of the disease, with primary pulmonary NHL accounting for only 3.8% of all extranodal NHL cases. Endobronchial involvement is even less common[4], affecting approximately 1.5% in a series of over four hundred cases[5].

Two types of endobronchial involvement are described: diffuse type I and localized type II, with type I being the most common[6]. It presents with general symptoms such as weight loss, night sweats, and asthenia. Endobronchial involvement can manifest with symptoms such as cough, wheezing, stridor, exertional dyspnea, chest pain, and even respiratory failure if the obstruction is severe[7]. Type II bronchial involvement cases may require rigid bronchoscopy for restoring airway patency using electrocautery, laser, or cryotherapy[7,8]. Our patient presented with symptoms attributable to pulmonary involvement, including cough, nasal voice, and class II functional dyspnea. Endoscopic images were striking due to their extent, revealing nodular formations lining the entire bronchial tree, including the subglottis. Biopsy of these lesions allowed for the diagnosis. In series of eight[5] and seven[8] patients with endobronchial NHL the diagnosis was made through bronchial biopsy. In the series of 8 patients, respiratory symptoms preceded general symptoms, and bronchial involvement was predominant[5].

CONCLUSION

Endobronchial involvement of NHL is very rare, but in patients with suspected oncohematological pathology, it should be considered within the differential diagnoses of primary bronchial tumors or metastases from kidney, colon, thyroid, and breast cancer, among others. A biopsy of endobronchial tissue through an endoscopic procedure can be sufficient for the diagnosis and immunohistochemical characterization.

Conflict of interest

The authors declare no conflicts of interest.

REFERENCES

1. Yu Lee-Mateus A, García-Saucedo JC, Abia-Trujillo D, Khoor A, Fernandez-Bussy S. Endobronchial Extranodal Marginal Zone B-Cell Lymphoma with Plasmacytic Differentiation. Cureus. 2021;13:e13104. https://doi.org/10.7759/cureus.13104.
2. Argüder E, Hasanoğlu HC, Karalezli A, Aknc S, Dilek I. Endobronchial involvement in non-Hodgkin lymphoma. J Bronchology Interv Pulmonol. 2012;19:142-4. https://doi.org/10.1097/LBR.0b013e3182512351.
3. Thandra KC, Barsouk A, Saginala K, Padala SA, Barsouk A, Rawla P. Epidemiology of Non-Hodgkin's Lymphoma. Med Sci (Basel). 2021;9:5. https://doi.org/10.3390/medsci9010005.
4. Hardavella G, Thalassinos N, Anastasiou N. Primary endobronchial non-Hodgkin lymphoma in an 80-year-old patient with prostate cancer. Interact Cardiovasc Thorac Surg. 2009;9:739-40. https://doi.org/10.1510/icvts.2009.204347
5. Solomonov A, Zuckerman T, Goralnik L, Ben-Arieh Y, Rowe JM, Yigla M. Non-Hodgkin's lymphoma presenting as an endobronchial tumor: report of eight cases and literature review. Am J Hematol. 2008;83:416-9. https://doi.org/10.1002/ajh.21112
6. Rose RM, Grigas D, Strattemeir E, Harris NL,

Linggood RM. Endobronchial involvement with non-Hodgkin's lymphoma. A clinical-radiologic analysis. Cancer. 1986;57:1750-5. https://doi.org/10.1002/1097-0142(19860501)57:9<1750::aid-cncr2820570907>3.0.co;2-j

7. Yang FF, Gao R, Miao Y, et al. Primary tracheobronchial non-Hodgkin lymphoma causing life-threatening airway obstruction: a case report. J Thorac Dis. 2015;7:E667-71. https://doi.org/10.3978/j.issn.2072-1439.2015.12.05
8. Yoon RG, Kim MY, Song JW, Chae EJ, Choi CM, Jang S. Primary endobronchial marginal zone B-cell lymphoma of bronchus-associated lymphoid tissue: CT findings in 7 patients. Korean J Radiol. 2013;14:366-74. https://doi.org/10.3348/kjr.2013.14.2.366 org/10.1002/ajh.21112