Original Research Paper

Volume - 12 | Issue - 12 | December - 2022 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Pulmonary Medicine

NON-HODGKIN`S LYMPHOMA IN A MEDIASTINUM: A REPORT OF 2 CASES

Dr. Nalin T. Shah	Professor &HOU Of Department of Pulmonary Medicine, B. J. Medical College, Ahmedabad
Dr. Arati D. Patel*	3ndYear Resident Doctor, Department of Pulmonary Medicine, B. J. Medical College, Ahmedabad*Corresponding Author
Dr. Mehul S. Bhalala	3ndYear Resident Doctor, Department of Pulmonary Medicine, B. J. Medical College, Ahmedabad

ABSTRACT Primary mediastinal non-Hodgkin lymphomas (PM-NHLs) represent ~5% of all non-Hodgkin lymphomas (NHLs) and comprise lymphomas of B-cell and T-cell origin. PM-NHLs are defined as involvement of mediastinal lymph nodes, thymus, and/or mediastinal organs (heart, lung, pleura, pericardium) by NHL without evidence of systemic disease at presentation. To examine clinical manifestations, imaging characteristics &diagnosis of Non-Hodgkin`s lymphoma , we analyzed 2 cases of Non-Hodgkin`s lymphoma. Both were presents as pleural effusion &cervical lymphadenopathy. These patients were suspicious as malignancy in pleural fluid cytology & in one case as further investigations such as mediastinal biopsy with immunohistochemistry confirmed a diagnosis as large T cell lymphoblastic lymphoma & another one confirmed as Non Hodgkin`s lymphoma in FNAC of supraclavicular lymph node. NHL is more likely to be part of the generalized disease process than in the main focus of disease, and only 20% of patients with NHL will have involvement of the mediastinum at the time of presentation. This disease is not limited to the anterior mediastinum and can occur in the middle and posterior mediastinal compartments. Of patients with primarily mediastinal disease, the majority will have either lymphoblastic lymphoma or large B-cell lymphoma. Biopsy in early stage of disease & pathological examination can help with diagnosis of NHL.

KEYWORDS : Non Hogdkin lymphoma, T lymphoblastic lymphoma

CASE PRESENTATION: 1

A 13 year old male student presented to civil hospital Ahmedabad on 08/06/22 with complain of breathlessness on exertion and left side chest pain since 1 month. He denied other constitutional symptoms. Patient was nonsmoker & no any other habits. No any past history of similar complaints.

Physical Examination :-

On General examination left side multiple lymph node swelling present in neck region. His heart rate was 162 beats per minute, blood pressure was 100/70mm of Hg and a respiratory rate of 28 per minute. Initial saturation 88 percent on room air but was increased to 98 % on 50% oxygen by simple nasal prongs at 2 litre per min. On auscultation bilateral air entry decrease more on left side in infrascpular region.

Blood test peripheral smear suggest of atypical lymphocyte 9%. 2D ECHO suggestive of thin rim of pericardial effusion and RA RV dilated RVSP 35mmhg mild PAH moderate TR.

Radiology: -

Chest Xray revealed left side cp angle blunted &widening of mediastinum. Fig 1.1.

CECT Thorax & Neck dated 10/06/22(Fig.1.2&1.3) revealed approx. 62x95x114 mm sized mildly enhancing soft tissue density lesion with have a normal few necrotic area within is noted involving superior, anterior and middle mediastinum. It appears to encase SVC and its tributaries and aortic arch and its branches, trachea and both main bronchi. Multiple enlarged homogenously enhancing bilateral posterior triangle lymph nodes noted, largest measures approx 20x21 mm on left side.

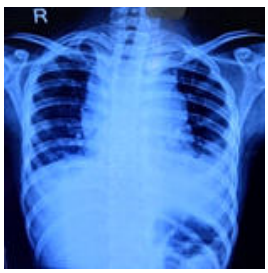

Fig 1.1

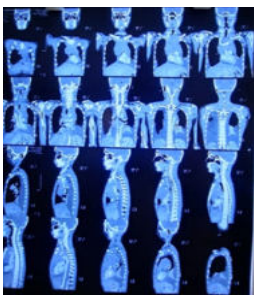

Fig 1.2

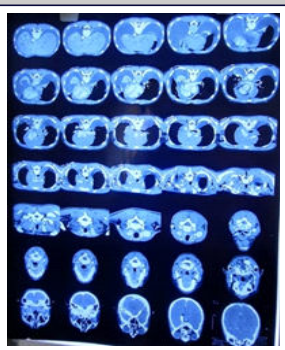

Fig 1.3

Gross pleural effusion noted on both sides with underlying subsegmental collapse of lower lobes. Approx 48x11x12 mm sized bony bar is noted arising from lesser wing of sphenoid on left side with fat density lesion at its tip in ambient cistern. No e/o associated soft tissue density lesion noted. Findings s/p/o Teratoma.

USG Abdomen &Thorax suggestive of Spleen appears bulky in size (12cm) & echotexture with no focal lesion within. Gross fluid noted in in bilateral pleural cavity with underlying lung collapse.

Pathology: -

FNAC of left supraclavicular lymph node S/O reactive lymphadenitis.

We performed Pleural fluid tapping both side & sent for investigations. Pleural fluid routine micro &Ada suggestive of exudative effusion on both sides. Pleural fluid cytology s/o lymphoid cells rich pleural effusion. Suspicious for malignant cells? Reactive? Neoplastic.in correlation with clinical findings, neoplastic pleural effusion is more favour.

After that patient refer to cancer hospital & CT GUIDED BIOPSY of Anterior mediastinal mass done that s/o hemorrhagic aspirate.

Immunohistochemistry staining displayed as TDT-Nuclear positive in intermediate cells, Positive for CD7, CD2, CD79a, MIB1 Nuclear positive in 80-90%. IHC Diagnosis S/o anterior mediastinal mass- T Lymphoblastic lymphoma. Patient refer to cancer hospital for further management.

MANAGEMENT
A patient be treated with conventional chemotherapy regimens and involved field radiotherapy. Long term prognosis was poor.

CASE PRESENTATION 2
A 55-year-old male patient presented to civil hospital Ahmedabad on 25/4/22 with complaints of blood in sputum 1-2 episodes per day, breathlessness, dry cough & left side chest pain for 1.5 month. No any other constitutional symptoms. Patient was chronic bidi smoker & chronic tobacco chewer for 20 years. No any other past history of any other illness.

Physical examination: -
clubbing present & bilateral enlargement of lymph node in neck region. His heart rate was 112 beats per minute, blood pressure was 110/70mm of Hg and a respiratory rate of 18 per minute. saturation 95% room air. On auscultation left side intrascapular region air entry decrease.

Blood investigations: -
All blood investigations normal.

Radiology: -
On Chest Xray mediastinal widening & left side cp angle blunted. (Fig 2.1) CECT THORAX S/o of malignant mediastinal mass involving all mediastinal compartments -lymphoma likely.

USG thorax s/o moderate effusion on left side with collapse of left lung. (Fig 2.2). We performed pleural fluid tapping done from left side.

- Pleural fluid examination s/o transudative lymphocytic predominant effusion.
- Pleural fluid cytology s/o negative for malignant cells. FNAC of left supraclavicular region shows high cellularity with diffuse arrangement of monotonous populations of atypical lymphocytes suggestive of non-Hodgkin's lymphoma.

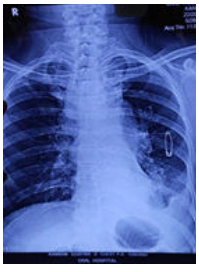

Fig.2.1

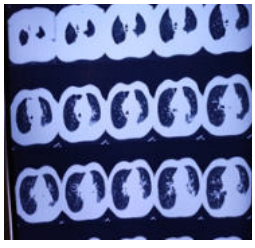

Fig.2.2

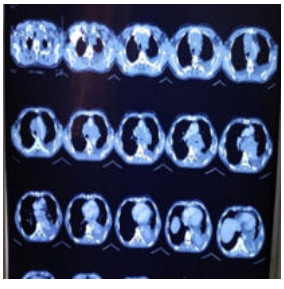

Fig. 2.2

MANAGEMENT: -
A patient had radiotherapy along with chemotherapy.

DISCUSSION
Most of the mediastinal masses (70%) are benign and one third are detected on plain radiographs. Of the malignant tumors (30%), 80% present with symptoms as cough, chest pain, dysphagia, dyspnea and superior vena cava syndrome. The mediastinum is divided into three compartments: the anterior, posterior and middle compartment. The most frequent tumors in the anterior compartment are known as the four Ts: Thymoma, Teratoma (germ cell tumor), Thyroid tumor (goiter) and Terrible lymphoma. The middle compartment is most frequently involved by lymphomas, including Hodgkin disease and non-Hodgkin lymphoma (NHL). The posterior compartment hosts mostly esophageal and neurogenic tumors. Primary mediastinal lymphomas comprise 10% of all mediastinal lymphomas. Hodgkin lymphoma (HD) accounts for 50% to 70% of primary lymphomas and further subdivides into the following subtypes: nodular sclerosing (most common), lymphocyte-rich, lymphocyte-depleted, and mixed-cellularity. Non-Hodgkin lymphoma (NHL) comprises 15 to 25% of primary lymphomas, the most common of which are diffuse large B-cell non-Hodgkin lymphoma, also referred to as mediastinal large cell non-Hodgkin lymphoma (MLC-NHL), and lymphoblastic non-Hodgkin lymphoma (LB-NHL). NHL is a heterogeneous group of systemic diseases that are categorized into many classes and grades. Mediastinal tumor burden in NHL is more likely to be part of the generalized disease process than in the main focus of disease, and only 20% of patients with NHL will have involvement of the mediastinum at the time of presentation This disease is not limited to the anterior mediastinum and can occur in the middle and posterior mediastinal compartments. Of patients with primarily mediastinal disease, the majority will have either lymphoblastic lymphoma or large B-cell lymphoma.

Lymphoblastic lymphomas are highly aggressive tumors, and invasive symptoms including cough, wheezing, dyspnea, and manifestations of superior vena cava syndrome, cardiac tamponade, or tracheal obstruction are common. The central nervous system, skin, and gonads may be involved and bone marrow involvement with relatively blasts common.

The radiologic presentation is also variable ranging from a mediastinal mass with or without superior vena cava syndrome, a pleural or a cardiac mass associated with effusion, or as an effusion only.

CONCLUSION
Although Non-Hodgkin`s lymphoma of mediastinum Clinically and radiologically all mediastinal mass shares the overlapping features, hence, for treatment and prognostic points of view its essential to differentiate the three entities, i.e., LBL, HL and PMBCL. The pathological diagnosis of mediastinal lymphomas is quite challenging for histopathologists. The diagnosis of PM-NHLs can only be established by microscopic evaluation, and therefore, general pathologists should be aware of these tumors and familiar with their diagnostic approach.

As earlier the diagnosed the disease better to treat as soon as possible.

ACKNOWLEDGEMENTS
The authors thank the patient who this report describes for consenting to have his case and medical imaging submitted for publication.

DICLOSURES
The authors have no financial disclosures or conflicts of interest to declare.

REFERENCES
[1] Rohit Singh, Shabana Shaik, Bhupinder Singh Negi, Jagadish Prasad Raj guru, Pankaj Bajirao Patil, Anuj Singh Parihar, Uma Sharma. Non-Hodgkin's lymphoma: A review. J Fam Med Prim Care 2020 [Published by Wolters Kluwer - Med know].
[2] owzyk Al-Najeeb A, Ajith Kumar T, Behan S, Hodson DJ. Non-
[3] Ekstrom-Smedby K. Epidemiology and etiology of non-Hodgkin lymphoma-A review. Acta Oncol 2006;45. 258-71.
[4] Reddy I, Srinath G, Reddy YR, Prakash AR, Swathi TR. Non-Hodgkin's lymphoma in buccal vestibule- case report. J Clin Dian Res 2014;8. https://doi.org/10.7860/JCDR/2014/83
[5] Dawe BV, Starman DH, Masani AI. Tumors of the mediastinum. Chest. 2005 Oct;128(4):2893-909.