VOLUME-6 | ISSUE-4 | APRIL - 2017 • ISSN No 2277 - 8179 | IF : 4.176 | IC Value : 78.46

LUNG CARCINOMA IN A CASE OF CLL : A CASE REPORT

Oncology

KEYWORDS: CLL, Carcinoma Lung, Secondary malignancy

Dr. Vandana Dahiya	Resident, Radiotherapy, GCRI
Dr. Shikha Dhal	Assistant Professor, Radiotherapy, GCRI
Dr. Maitri Bhagat	Junior Resident, Radiotherapy, GCRI
Dr. Maitrik Mehta	Associate Professor, Radiotherapy, GCRI
Dr. Ankita Parikh	Professor, Radiotherapy
Dr. Asha Anand	Professor, Medical Oncology, GCRI
Dr. Prerak Agrawal	Resident, Radiotherapy, GCRI
Dr. Arya Kumar Banidutta	Senior Resident, Radiotherapy, GCRI

ABSTRACT

B-cell CLL is the most common type of leukemia occurring worldwide. There has been significant advancement in our understanding of the biology, immunology, and modalities of treatment of chronic lymphocytic leukemia (CLL) in the last decade. B-cell CLL is characterized by progressive defects in both cell-mediated and humoral-mediated immunity. Data collected from various surveys has pointed out that CLL patients are at high risk of developing a large variety of second malignant neoplasms. The occurrence of 2 or more second cancers is increasingly being reported in the context of CLL. Increased awareness regarding the disease process and possible treatment modalities is required for a better clinical scenario.

INTRODUCTION

B-cell chronic lymphocytic leukemia (B-CLL) is the most common type of leukemia in adults. The number of new cases of CLL is about 4.6 per 100000 population.[1] It affects B-cell lymphocytes, which then grow in an uncontrolled manner and get accumulated in the bone marrow and blood, in turn crowding out healthy blood cells. B-cell CLL is characterized by progressive defects in both cell-mediated and humoral-mediated immunity. B-lymphocyte defects, low gammaglobulin levels, and quantitative and functional T-cell defects have been documented in the setting of CLL in multiple study designs.[2] Moreover, several recent surveys have pointed out that CLL patients are at high risk of developing a large variety of second malignancies.[3] Occasionally, a few patients with CLL demonstrate transformation to an aggressive large B cell lymphoma, referred as Richter Syndrome. This may arise either in the setting of active disease or a complete response.[4] An increased incidence of lung cancer of all major histologies has been identified in CLL in several observational studies.[2] 20% of CLL cases have indolent course and are asymptomatic and may be followed without therapy.[5] A careful clinical follow up and tumor screening that includes sex and age adjustments can lead to an early diagnosis and appropriate treatment of secondary malignancies in CLL.

CASE REPORT

A 65 year old male presented at our hospital in October 2016 with right axillary swelling since two years. This swelling started as a small, firm, mobile bulge in the right axilla and remained the same over the last two years. There was no pain or discharge from the swelling. The patient developed multiple neck swellings over the past five months. He had complaints of mild diffuse chest pain and dyspnoea on exertion since 6 months. Biopsies were taken from two sites and the histopathology report was suggestive of low grade lymphocytic type Non Hodgkin's Lymphoma in the Right axillary lymph node and Metastatic poorly differentiated Adenocarcinoma in the Left cervical lymph node.

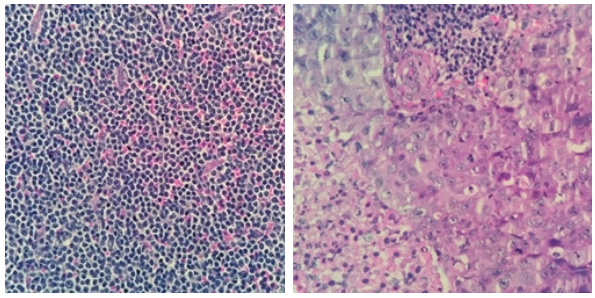

Figure: A: Right axillary lymph node (low grade lymphocytic type NHL) and B: Left cervical lymph node (Metastatic poorly differentiated Adenocarcinoma)

NHL Panel for Right axillary lymph node was positive for CD5, BCL2, CD23, CD20 (PanB), negative for CD10, CD2 and Cyclin D1 and MIB1 was 30% and for Left cervical lymph node was positive for TTF-1, AE1, CK7, EMA and negative for CK5/6.

Bone marrow examination and Immunophenotyping using Chronic Lymphoproliferative Disorder (CLPD) Panel markers gave the final diagnosis as Chronic Lymphocytic Leukemia.

β_2 microglobulin, Lactase Dehydrogenase (LDH) and Serum Creatinine levels in this patient were 2.6 mg/dl, 345 IU/L and 1.8 mg/dl respectively.

The Contrast Enhanced Computed Tomography (CECT) scan of thorax was suggestive of a large heterogeneously enhancing soft tissue density lesion in posterior segment of right upper lobe of approximate size 5.2X3.5 cm with foci of calcification and abutting adjacent pleural surface of right lung with loss of fat plane. Presence of multiple heterogeneous enhancing enlarged lymph nodes in subcarinal, precarinal, bilateral paratracheal and pretracheal and bilateral hilar regions with internal necrosis was also noted, largest measuring 1.4X0.8 cm with few metastatic heterogeneous enhancing

soft tissue density nodular lesions in bilateral lung fields.

Diagnosis of CLL with second malignancy of metastatic Carcinoma Right Lung was made.

Patient has been planned for Chemotherapy, preferably a two drug regime and will be planned for further treatment based on the response evaluation.

DISCUSSION

The reporting of two and even three malignancies in patients with CLL has been recorded with increasing frequency.[6] Retrospective data shows patients with CLL have a three-fold risk of developing a secondary malignancy, an 8–15 fold increased risk for developing skin cancers and when skin cancers are excluded, the overall risk is twice than that of age- and gender-matched control populations.[6] The risk is same for men and women, regardless of age or treatment history. Men seem to be at higher risk for non-melanoma skin cancer (NMSC) and prostate cancer, whereas women are more likely to develop breast, lung, and gastrointestinal cancers.[6] Commonly diagnosed secondary malignancies include NMSC, Kaposi sarcoma, malignant melanoma, lung cancer, gastrointestinal malignancies, breast cancer, prostate cancer, kidney cancer, bladder cancer, head and neck cancers, and Richter transformation to a very aggressive large B-cell lymphoma.[7]

Approximately 2% of patients with CLL develop lung carcinomas. According to a study, lung cancer was at least twice as common in men compared with its incidence in women, and the diagnosis was made approximately 8 years after the diagnosis of CLL.[8] Our patient, though diagnosed for both the malignancies simultaneously, has history of cervical lymphadenopathy since 3 years.

All patients with CLL should be counseled regarding their increased risk for developing a second malignancy. Various factors affecting the occurrence of a second malignancy in CLL have been identified. These include older age (older than age 60 years), male gender, and elevated levels of beta 2 microglobulin (greater than 3 mg/L), lactate dehydrogenase (greater than 618 u/L), and serum creatinine (greater than 1.6 mg/gl).[9]

CLL is currently viewed as a long-term disease, for which most of the available treatment modalities (with the exception of allogeneic transplantation) do not result in a cure.[2] More recently, a combination of fludarabine, cyclophosphamide and the anti-CD20 antibody, rituximab has resulted in a very high complete remission rate of 70% in patients with CLL, with a median time to progression of 80 months. Newer approaches to treatment of CLL involve vaccines, cell cycle inhibitors, antiapoptotic agents, immunomodulatory agents and monoclonal antibodies.[10]

CONCLUSION

Physicians following the patients of CLL need to be made aware about the fact that in addition to the morbidity and mortality from CLL itself, the situation is worsened by superimposed infections and second malignancies. Existing risk factors should be carefully considered and used for the development and implementation of prophylactic strategies against second non-lymphoid neoplasms in CLL patients. A better understanding of the risk factors associated with the development of second malignancies in patients with CLL could result into better clinical outcomes.

REFERENCES

1. SEER Stat Fact Sheets: Chronic Lymphocytic Leukemia (CLL). Data based on 2009-2013 reported cases.
2. Increased risk of second malignancies in chronic lymphocytic leukaemia patients as compared with follicular lymphoma patients: a Canadian population-based study; British Journal of Cancer (2013) 109, 1287–1290. doi:10.1038/bjc.2013.381; Published online 16 July 2013.
3. Manusow, BH Weinerman: Subsequent neoplasia in CLL JAMA 232: 267-269, 1975 Medline
4. Perez and Brady's Principles and Practice of Radiation Oncology, fifth edition. Pg: 1784.
5. Perez and Brady's Principles and Practice of Radiation Oncology, sixth edition. Pg: 1594.
6. Risk for Second Non-lymphoid Neoplasms in CLL: Constanin A. Dasanu, MD, PhD, Practicing Hematologist and Medical Oncologist and Doru T. Alexandrescu, MD, Faculty. [Medscape General Medicine]
7. Second Malignancies in Chronic Lymphocytic Leukemia. Beiggi et al., 2012; Jain & O'Brien, 2012; Molica, 2005; Royle et al., 2011; Wiernik, 2004
8. Parekh K, Rusch V, Kris M. The clinical course of lung carcinoma in patients with CLL. Cancer. 1999; 86:1720-1723. [PubMed]
9. Suzuki K, Maekawa I, Mikuni C, et al. Prognosis in 75 cases of chronic lymphocytic leukemia and second malignancies. Rinsho Ketsueki. 1997;38:740–744. [PubMed]
10. Perez and Brady's Principles and Practice of Radiation Oncology, sixth edition. Pg: 1594-1595.