



## **Primary Gastric Lymphoma (Diffuse Large B Cell Type)**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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**Case Report**

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### **ABSTRACT**

The most frequent extra-nodal site of lymphoma is gastric lymphoma. The bulk of such lesions are extra nodal marginal zone B mucosal cell lymphoma correlated with lymphoid tissue (MALT) type or diffuse lymphoma of large B cells. We are reporting a case of diffuse major B-Cellular gastric lymphoma, which at first showed indigestion, abdominal heaviness, nausea and widespread weakness with 3-4 months of weight loss. In the antropyloric region and distal portion of lesser curvature of stomach suggestive of aetiology of cancer, the CT abdomen shows circumferential wall thickening. DLBCL has been confirmed by HPE and IHC. The neoplasm entered serosa and was found to have adherence to the pancreatic capsule in stage IIE of gastric lymphoma. Following the staging, treatment with an R-CHOP regimen (rituximab, cyclophosphamide, oncovin (vincristine), hydroxydaunorubicin, and prednisone) was done.

**Keywords:** Gastric lymphoma; R-CHOP regimen; NHL.

## 1. INTRODUCTION

Less than 5% of gastric cancers are due to primary gastric lymphoma [1-7]. Typically they are Non-Hodgkin's lymphomas (NHL), but are known to be a different category from peripheral nodal NHL. The detection of primary stomach lymphoma needs histological examination with no presence of any peripheral lymphadenopathy or any organomegaly [8-16].

The involvement of stomach by a diffuse lymphoma formed in other place of the body suggests Secondary Gastric lymphoma. Gastric lymphoma is the paramount frequent extranodal site of lymphoma [15-21]. Most of these lesions are either extra nodal MALT or DLBCL. We document the case of diffuse large gastric B-cell lymphoma.

## 2. CASE PRESENTATION

A man aged sixty two years was admitted in our hospital for 3-4 months with symptoms of indigestion, abdominal heaviness, nausea and generalized fatigue. There was history of losing 5 kg of weight in 1 month. The patient had a history of hypertension and diabetes mellitus. The patient was afebrile on physical examination with no pallor, icterus, lymphadenopathy and bony tenderness were present. 130/80 mm Hg blood pressure, pulse-84/min, respiratory rate-22/min was noticed. Subsequently, in cardiac system, ECG appeared to be normal, patient was aware, P/A examination was soft and non-tender. On investigation: - complete blood count was unremarkable along with blood urea, creatinine, sodium, potassium were usual. There was no abnormality found in chest x-ray PA view suggesting a clear chest.

With above mentioned history and investigations, CECT chest and abdomen was recommended, which showed circumferential wall thickening in the antropyloric area and distal portion of lesser curvature of the stomach suggesting a neoplastic aetiology. Patient underwent surgery after discussion with their family. This operation was uneventful. Operation notes were mentioned as conduction of Radical Subtotal Distal Gastrectomy- Large mass development in the stomach antrum reaching up to serosa was noticed. Sub pyloric lymph nodes were present along the left gastric artery and hepatic artery. No liver secondaries, no deposits of the peritoneum and no ascites was noticed. Specimen was sent for histopathology

examination. In pathology department, obtained specimen of radical subtotal gastrectomy measured 18 x 10 cm in size. Its cut section showed significant infiltrative ulcer growth of 5 cm from distal resection margin. Seven fat-dissected lymph nodes were identified. Parts of the tumor mass, microscopically showed mucosal ulcerations. Infiltration of submucosa and deeper tissue by monotonous cell population was noticed along with eosinophilic cytoplasm and round to oval vesicular nuclei with prominent nucleoli. Follicular hyperplasia was noticed in the lymph nodes. Immunohistochemistry (IHC) was advised on the reported gastric lymphoma and was referred to SRL Mumbai for IHC tissue blocks. They identified it as Non Hodgkins Lymphoma on IHC. DLBCL was negative for CD3, CD10 and pancytokeratin. CD20, BCL-2 and Ki-67 were positive and weak positivity for BCL-6 oncoprotein was seen. We concluded this case as a case of primary gastric lymphoma. As the tumor entered serosa and was adherent to the pancreatic capsule, gastric lymphoma of stage IIE was considered. Subsequently, RCHOP chemotherapy (rituximab, cyclophosphamide, hydroxydaunorubicin, oncovin (vincristine and prednisone) regimens was administered.

## 3. DISCUSSION

NHL is a common word for a diversified community of lymphoproliferative malignancies with varying activity trends and treatment responses. The prevalent location of extra nodal NHLs is the gastrointestinal (GI) tract. Several studies have shown that primary malignant lymphomas are around 5-7 percent of all gastric malignancies. It consists of about 20 percent of all malignancies in the small intestine and 0.4 percent in the large intestine. The stomach is the paramount frequent site of extra nodal lymphoma. However, Non-Hodgkins Lymphoma is rare, relative to the occurrence of carcinoma, comprising two percent to eight percent of all gastric neoplasms. Origin of most of the NHLs is from B cell (80-90 percent). The most frequent histological subtype of NHL is DLBCL. It consists of about twenty five percent of cases of non-Hodgkins Lymphoma (NHL) in the developing world. Occurrence of DLBCL in USA is around seven cases per one lakh persons per year. There is a male predominance, like most other NHLs, with around 55 percent of cases arising in males. As age advances, incidence increases, with an average age of 64 years at present. DLBCL is a vigorous type of NHL where the

patient's survival was measured in months with absence of any given treatment to the patient. The survival rate is assessed showing 60 percent of patients, presenting with late stage of DLBCL (typically stage III or IV disease), while forty percent of patients with more confined disease. Gastric lymphomas are classified as primary, according to Dawson et al with only the predominant stomach involvement and the association with lymphadenopathy intra abdominally is seen due to the presence of corresponding drainage of the stomach lymphatics.

Nodes in subcutaneous region were not palpable, also there were no palpable nodes of mediastinum and organomegaly. There were no non uniform leucocytes on peripheral smear or bone marrow aspirate was seen. Nearly all patients were in their 6<sup>th</sup> decade at the time of presentation. In white populations, men are involved much more commonly. Pain in the epigastrium, weight loss, nausea, and vomiting are the most common complaints encountered. A palpable abdominal mass is rarely discovered. Night sweats and subcutaneous ganglions are supposed to be a rare occurrence. Obstructive, bleeding and perforative characteristics are not commonly seen. Usually, the characteristics of gastric carcinoma do not vary much.

While surgical resection is a reliable primary treatment, multimodality approach with neoadjuvant chemotherapy and preservation of stomach have proven to be as an extra edge in the treatment of NHLs. The CHOP (cyclophosphamide, doxorubicin, vincristine, prednisolone) regimen alone or with the addition of certain new drugs such as rituximab(RCHOP) has shown a better outcome in the management of primary gastric lymphoma. For widespread illnesses, chemotherapy is often favoured. Where the tumor is not completely excised, radiotherapy becomes the alternative choice (14). The histologic subtype and lymphoma grade may have a big effect on prognosis. In low grade stage IE & IIE, the disease survival rate of five years, ranging from eighty to ninety percent is noticed; whereas high grade of such lymphomas ranges from thirty nine to seventy four percent. The expanse of the disease to the serous layer of the stomach and intra-abdominal lymph nodes show association with a prognostically poorer outcome. The 5 year survival rate for early stage IE & IIE disease ranges from 80-90 percent, while the high level

of such lymphomas ranges from thirty to seventy-four percent.

#### 4. CONCLUSION

DLBCL is a predominant lymphoma of the gastrointestinal tract that typically affects older men. Advanced stage remains as the usual presentation. Management consists mostly surgically along with chemotherapy. Here we present a case of gastric DLBCL with the aim of making the doctors aware of this common, aggressive and fatal lymphoma if left untreated.

#### CONSENT

After receiving their consent along with proper fitness from the anaesthetist, the operation was performed.

#### ETHICAL APPROVAL

Ethical clearance taken from institutional ethics committee

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

#### REFERENCES

1. Armitage JO. Treatment of non-hodgkin's lymphoma. *NEng J Med.* 1993;328(14):1023-30.
2. Brigitte Dragosics, Peter Bauer et al. Primary gastrointestinal non-hodgkin's lymphoma. A retrospective Clinicopathological Study of 100 Cases. *Cancer.* 1985;55:1060-1073.
3. Fleming ID, Mitchell S, Dilwari RA. The role of surgery in the management of gastric lymphoma. *Cancer.* 1982;49:1135-1141.
4. Aisenberg AC. Coherent view of non-hodgkins lymphoma. *J Clinoncol.* 1995;13:2656-2675.
5. Jr, BFP, Federico R Tewes. What attorneys should understand about Medicare set-aside allocations: How Medicare Set-Aside Allocation Is Going to Be Used to Accelerate Settlement Claims in Catastrophic Personal Injury Cases. *Clinical Medicine and Medical Research.* 2021;2(1):61-64.

- Available:<https://doi.org/10.52845/CMMR/2021v1i1a1>
6. Morton LM, Wang SS, Devesa SS, Hartge P, Weisenburger DD, Linet MS. Lymphoma incidence patterns by WHO subtype in the United States, 1992-2001. *Blood*. 2006;107(1):265–76.
  7. Smith A, Howell D, Patmore R, Jack A, Roman E. Incidence of haematological malignancy by sub-type: a report from the Haematological Malignancy Research Network. *Br J Cancer*. 2011;105(11):1684–92
  8. Daniel V, Daniel K. Perception of nurses' work in psychiatric clinic. *Clinical Medicine Insights*. 2020;1(1):27-33. Available:<https://doi.org/10.52845/CMI/2020v1i1a5>
  9. Dawsen IMP, Cornes JS et al. Primary malignant intestinal lymphoma of the intestinal tract. *BR J surg*. 1961;49:80-89.
  10. Thirlby RC. Gastrointestinal lymphoma: A surgical perspective. *Oncology (Huntingt)*. 1993;7:29-32.
  11. Jones RE, Willis S et al. Primary gastric lymphoma: Problems in staging and management. *Am J Surg*. 1988;155:118-123.
  12. Ibrahim Al- Sheneber, Henry R Shibata. Primary Gastric Lymphoma. *Cancer Control J*. 1997;4:245-252.
  13. Daniel V, Daniel K. Exercises training program: It's effect on muscle strength and activity of daily living among elderly people. *Nursing and Midwifery*. 2020;1(01):19-23. Available:<https://doi.org/10.52845/NM/2020v1i1a5>
  14. Armitage JO, Weisenburger DD. New approach to classifying non-Hodgkin's lymphomas: clinical features of the major histologic subtypes. Non-Hodgkin's Lymphoma Classification Project. *J Clin Oncol*. 1998;16(8):2780–95.
  15. A clinical evaluation of the International Lymphoma Study Group classification of non-Hodgkin's lymphoma. The Non-Hodgkin's Lymphoma Classification Project. *Blood*. 1997;89(11):3909–18.
  16. Daniel V, Daniel K. Diabetic neuropathy: New perspectives on early diagnosis and treatments. *Journal of Current Diabetes Reports*. 2020;1(1):12–14. Available:<https://doi.org/10.52845/JCDR/2020v1i1a3>
  17. Haim N, Leviov M, et al. Intermediate and high grade non Hodgkin's lymphoma: a prospective study of non surgical treatment with primary chemotherapy with or without radiotherapy. *Leuk lymphoma* 1995;17:321-326.
  18. Smith MR. Non-hodgkin's lymphoma. *CurrProbl Cancer*. 1996;2:6-77.
  19. VaMeeten T, Hagenbeek A. CD 20 targeted therapy. A breakthrough in the treatment of non-Hodgkin's lymphoma. *Neth J Med*. 2009;67(7):251-259.
  20. Richard B. Arenas. Gastric Lymphoma. *Cancer*;17: 322-333. Primary Gastric Lymphoma - A Case Report *JM*. 2003 ;16(2):134.
  21. Anil Kumar Gupta, Manoj Sharma. Synthesis and characterization of novel substituted-1-(4-substituted benzyl)-1h-indolo (2, 3-b) quinoxaline n-benzyl indole-2,3-dione moieties', *Journal of Biomedical and Pharmaceutical Research*, ISSN (O) 2279 – 0594. 2016;5(5): 137-146.

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