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Original Research

Determination of histological subtypes and sites of primary GIT lymphomas

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ABSTRACT:

Background: The present study was conducted to determine the histological subtypes and sites of primary GIT lymphomas. **Materials & Methods:** 104 patients with histopathological diagnosis of lymphoma involving the GIT. Mucosal biopsies and resected surgical specimens was processed and studied. **Results:** The main type was DLBCL seen in 56, BL in 26, T NHL in 12, PTLPD in 6 and burkitt lymphoma in 4 patients. The difference found to be significant (P< 0.05). The common site of primary GIT lymphomas was stomach in 45, small intestine in 30, colon in 4, rectum in 3 and ileocecum in 22 cases. The difference was significant (P< 0.05). **Conclusion:** Common type of primary GIT lymphoma was diffuse large B cell lymphoma followed by Burkett lymphoma and T non- Hodgkin lymphoma.

Key words: Burkett lymphoma, GIT lymphoma, T non- Hodgkin lymphoma

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INTRODUCTION

The gastrointestinal tract (GIT) is the commonest site for extra-nodal non-Hodgkin's lymphomas (NHL), which show an increasing incidence worldwide. GIT lymphoma is a heterogeneous entity and constitutes approximately 10-15% of all NHL cases and 30%-40% of all extra-nodal lymphomas.[1] The definition of primary GI lymphoma refers to a lymphoma that predominantly involves any section of the GI tract from the oropharynx to the rectum. While the disease typically involves a single primary site, multiple sites within the GI tract may be involved, as can local and distant lymph nodes.[2]

The gastrointestinal (GI) tract is the predominant site of extranodal lymphoma involvement. Primary lymphomas of the GI tract are rare, while secondary GI involvement is relatively common. Despite their rarity, primary lymphomas of the GI tract are important since their evaluation, diagnosis, management, and prognosis are distinct from that of lymphoma at other sites and other cancers of the GI tract.[3]

Since the introduction of the revised European and American Lymphoma (REAL) classification and its successor, the World Health Organization (WHO) classification of lymphomas, it is widely accepted that different lymphomas are not merely morphological variations of one disease but constitute individual diseases with diverse clinical behaviors.[4] The modern lymphoma classification is based on morphological, immunophenotypic, genetic, and clinical features. Making the correct diagnosis, according to the WHO classification, is critical because treatments can vary widely from a simple "wait and watch" approach to local radiation or surgery to high dose chemotherapy with or without stem cell transplantation.[5] The present study was conducted to determine the histological subtypes and sites of all GIT lymphomas.

MATERIALS & METHODS

The present study was conducted in the department of general pathology. It comprised of 104 patients with histopathological diagnosis of lymphoma involving the GIT. Mucosal biopsies and resected surgical specimens including total/subtotal colectomy /gastrectomy/ileal resection specimens was processed routinely in 10% formalin and 5µ paraffin sections were stained with hematoxylin and eosin (H and E).

Immunostaining along with appropriate positive and negative controls was performed manually on paraffin sections with the conventional avidin-biotin peroxidase technique and developed with diaminobenzidine (DAB) with pretreatment by heating in a Pascal pressure cooker in 0.01 M citrate buffer (pH 6.0)/l mM EDTA buffer (pH 8.0) or the proteolytic enzymes, trypsin or pepsin. Results were tabulated and subjected to statistics. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of specimens

Total- 104		
Gender	**Males**	**Females**
Number	64	40

Table I shows that out of 104 patients, males were 64 and females were 40.

Table II Primary GIT lymphomas

Type	Number	P value
DLBCL	56	0.01
BL	26	
T NHL	12	
PTLPD	6	
Burkitt lymphoma	4	

Table II, graph I shows that main type was DLBCL seen in 56, BL in 26, T NHL in 12, PTLPD in 6 and burkitt lymphoma in 4 patients. The difference found to be significant (P< 0.05).

Graph I Primary GIT lymphomas

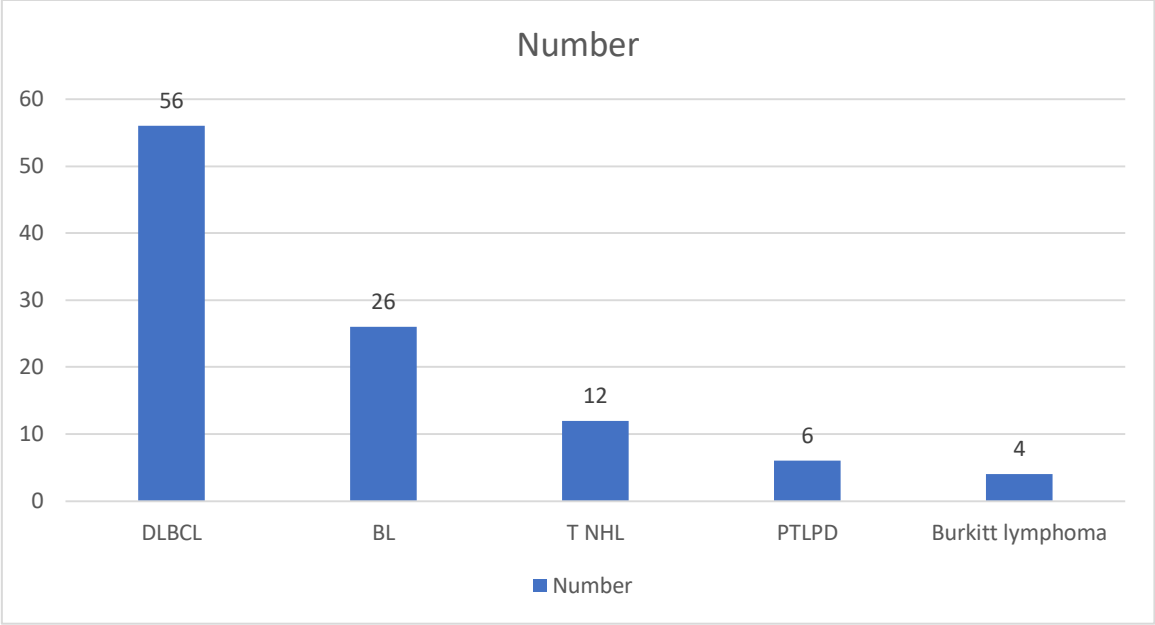
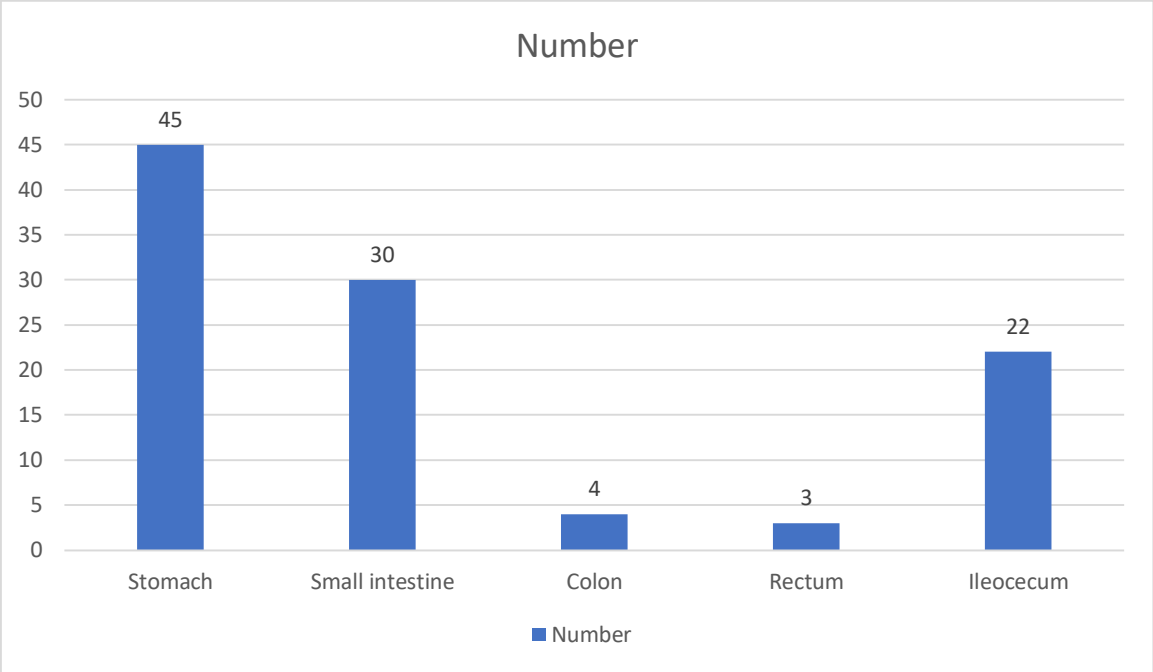


Table III Site of GIT lymphomas

Site	Number	P value
Stomach	45	0.01
Small intestine	30	
Colon	4	
Rectum	3	
Ileocecum	22	

Table III, graph II shows that common site of primary GIT lymphomas was stomach in 45, small intestine in 30, colon in 4, rectum in 3 and ileocecum in 22 cases. The difference was significant (P< 0.05).

Graph II Site of GIT lymphomas



DISCUSSION

The incidence of lymphoma has more than doubled in the past four decades and continues to increase. Primary extranodal lymphomas constitute up to one third of all lymphomas, [2] and the gastrointestinal tract (GIT) is the commonest extranodal site of involvement by non-Hodgkin lymphomas in immunocompetent persons and second only to central nervous system (CNS) lymphomas in human immunodeficiency virus-acquired immune deficiency syndrome (HIV-AIDS) patients.[6] Considerable variation exists in the literature with respect to incidence of the various histological subtypes and sites of involvement of gastrointestinal (GI) lymphomas. The most common site of PGL in Western countries is the stomach (approximately 35-75%), followed by the small intestine (30%) and large intestine (10%). These proportions differ geographically and small intestinal lymphomas are more common than other PGL in the Middle East and North Africa.[7] The present study was conducted to determine the histological subtypes and sites of all GIT lymphomas.

In present study, out of 104 patients, males were 64 and females were 40. We found that main type was DLBCL seen in 56, BL in 26, T NHL in 12, PTLPD in 6 and burkitt lymphoma in 4 patients. Arora et al[8] found that 361 cases include 336 primary and 25 cases of lymphomas, where the involvement was secondary. Primary lymphomas consisted of 267 males (79.64%) and 68 females (20.24%) with a male: female ratio of 3.93:1. The mean age was 45 years (range 3-88). Diffuse large B-cell lymphoma (DLBCL) was the commonest subtype (222 cases; 66.71%), followed by low-grade marginal zone lymphoma of the mucosa associated lymphoid tissue (MALT) type (34 cases; 10.12%) and Burkitt's lymphoma (35 cases; 10.48%). The commonest site was stomach (180 cases; 53.57%), followed by small intestine (79 cases; 23.51%) and large intestine (68 cases; 20.23%), respectively. There were some uncommon types of GIT lymphomas documented during the study.

We found that common site of primary GIT lymphomas was stomach in 45, small intestine in 30, colon in 4, rectum in 3 and ileocecum in 22 cases. Like all earlier classifications, the WHO classification recognizes the fundamental distinction between Hodgkin lymphomas and Non-Hodgkin lymphomas (NHL) with basic differences in the biology of these diseases. Hodgkin lymphoma in extranodal sites, including GIT, is exceedingly rare. Non-Hodgkin Lymphomas comprise several entities broadly classified as B-cell or T-cell processes, with each group being further sub-classified as precursor cell or mature cell lymphomas.[9]

Many lymphoid neoplasms can present either as a mass lesion (lymphoma) or as circulating cells (leukemia) in different patients or in the same patient over the course of the disease. In the context of primary GIT disease, a mass lesion ("lymphoma") will be expected. B-cell lymphomas constitute the vast majority of lymphomas in the Western hemisphere (>80%) and at a lower frequency in the far East (about 60%), with Indian incidence being intermediate. B-cell lymphomas generally respond better to current chemotherapy than T-cell lymphomas and have a better prognosis.[10]

The limitation of the study is small sample size.

CONCLUSION

Authors found that out of all specimens, most common type identified was diffuse large B cell

lymphoma followed by Burkett lymphoma and T non-Hodgkin lymphoma.

REFERENCES

1. Cardona DM, Layne A, Lagoo AS. Lymphomas of the gastro-intestinal tract - Pathophysiology, pathology, and differential diagnosis. Indian J Pathol Microbiol 2012;55:1-16.
2. Muller AM, Ihorst G, Mertelsmann R, Engelhardt M. Epidemiology of non-Hodgkin's lymphoma (NHL): Trends, geographic distribution, and etiology. Ann Hematol 2005;84:1-12
3. Krol AD, le Cessie S, Snijder S, Kluin-Nelemans JC, Kluin PM, Noordijk EM. Primary extranodal non-Hodgkin's lymphoma (NHL): The impact of alternative definitions tested in the Comprehensive Cancer Centre West population-based NHL registry. Ann Oncol 2003;14:131-9.
4. Wu XC, Andrews P, Chen VW, Groves FD. Incidence of extranodal non-Hodgkin lymphomas among whites, blacks, and Asians/Pacific Islanders in the United States: Anatomic site and histology differences. Cancer Epidemiol 2009;33:337-46.
5. d'Amore F, Brincker H, Gronbaek K, Thorling K, Pedersen M, Jensen MK, *et al*. Non-Hodgkin's lymphoma of the gastrointestinal tract: A population-based analysis of incidence, geographic distribution, clinicopathologic presentation features, and prognosis. Danish Lymphoma Study Group. J Clin Oncol 1994;12:1673-84.
6. Harris NL, Jaffe ES, Stein H, Banks PM, Chan JK, Cleary ML, *et al*. A revised European-American classification of lymphoid neoplasms: A proposal from the International Lymphoma Study Group. Blood 1994;84:1361-92.
7. Jaffe ES, Harris NL, Stein H, Vardiman JW. Pathology and Genetics of Tumours of Haematopoietic and Lymphoid Tissues. Lyon: IARC Press; 2001.
8. Arora N, Manipadam MT, Pulimood A, Ramakrishna B S, Chacko A, Kurian SS, Nair S. Gastrointestinal lymphomas: Pattern of distribution and histological subtypes: 10 years experience in a tertiary centre in South India. Indian J Pathol Microbiol 2011;54:712-9.
9. Kassira N, Pedroso FE, Cheung MC, Koniaris LG, Sola JE. Primary gastrointestinal tract lymphoma in the pediatric patient: Review of 265 patients from the SEER registry. J Pediatr Surg 2011;46:1956-64.
10. Kohno S, Ohshima K, Yoneda S, Kodama T, Shirakusa T, Kikuchi M. Clinicopathological analysis of 143 primary malignant lymphomas in the small and large intestines based on the new WHO classification. Histopathology 2003;43:135-43.