



Clinicopathological Profile of Gastrointestinal Lymphoma Diagnosed Over a Period of 6-Years: A Tertiary Care Center Experience



Prashant Ramteke¹ *, Surabhi Jain¹, Shweta Meena¹, Trisha Mandal¹, Prasanjit Das¹, Rajni Yadav¹, Mehar Chand Sharma¹, Ajay Gogia², Raja Parmanik², Atul Sharma², Sameer Bakhshi², Manoranjan Mahapatra³, Ahitagni Biswas⁴, Lalit Kumar², Saumyaranjan Mallick¹

¹Departments of Pathology, ²Medical Oncology, ³Hematology and ⁴Radiotherapy, All India Institute of Medical Sciences, New Delhi, India

Introduction

- The gastrointestinal tract (GIT) is the commonest site for extra-nodal non-Hodgkin's lymphomas (NHL)
- GIT lymphoma is a heterogeneous entity and constitutes approximately 10–15% of all NHL cases and 30%–40% of all extra-nodal lymphomas
- The involvement of GIT by lymphomas can be primary or secondary
- Primary GIT lymphomas (PGLs) have been defined as those in which involvement of the alimentary tract predominates or those with symptoms of GIT involvement on presentation
- GILs show heterogeneity in terms of distribution patterns, histopathological subtypes, disease manifestations, and treatment offered
- Considerable geographical variation exists in the literature with respect to incidence of the various histological subtypes and sites of involvement of GILs
- The most common site of GIL is the stomach (approximately 35–75%) in Western countries, however it is small intestine in Middle East and North Africa
- Diffuse large B-cell (DLBC) lymphoma is the most common pathological subtype in GILs. However, the frequency of other subtypes has also increased recently in certain geographic areas
- There are very limited studies regarding GIL from South- East Asia. Only one study regarding the anatomical distribution of GIL was published from India

Aims and Method

- To determine the clinicopathological profile of lymphomas in the GIT
- This is a retrospective study. All GIL-related data were retrieved from a database maintained by the Department of Pathology, All India Institute of Medical Sciences, New Delhi. The cases with incomplete diagnoses were reviewed, and an appropriate immunohistochemistry (IHC) panel was performed, followed by reclassification according to the 2017 WHO classification
- Demographic details of all the cases were retrieved from the database
- Based on the site of origin the GILs were categorized into gastric and intestinal
- Based on the type of lymphomas, GILs were broadly categorized as aggressive B cell NHL (DLBCL, BL and other aggressive NHL), small B cell NHL (MALToma, Mantle cell lymphoma and others) and T cell NHL
- The cases were divided into pediatric (<18 year), adult (19-60 years) and elderly (>60 years) groups
- Treatment and follow-up data of 75 cases were retrieved from the patient medical record

Results

- A total of 391(8.21%) cases of GIL were identified out of 4,758 total cases of lymphomas diagnosed over a period of 6 years, from 2015 to 2020
- Out of these 391 cases of GILs, 364 were primary GILs, and 27 cases were secondarily involved GIL
- Males are predominantly affected (M:F=3:1)
- The mean age is 40.6 yrs, with a range from 2 to 88 yrs

Fig 1. Time trend of lymphoma

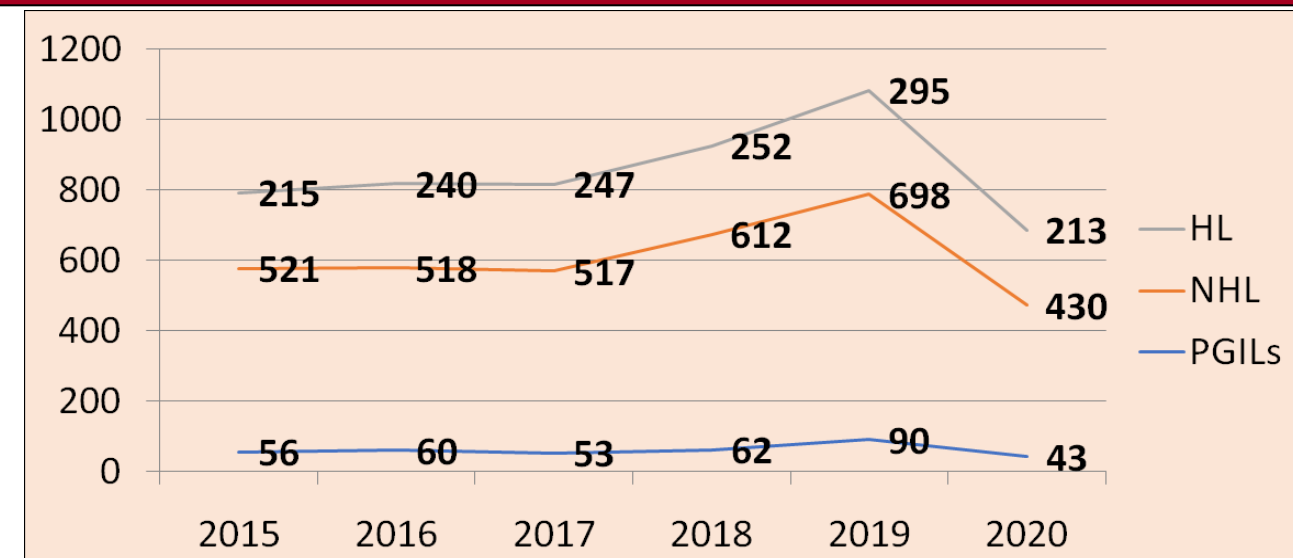


Fig 2. % of Primary GILs

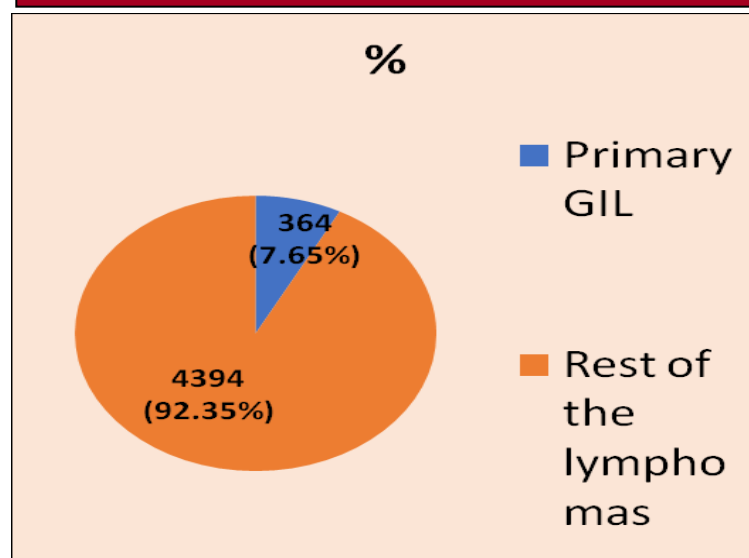
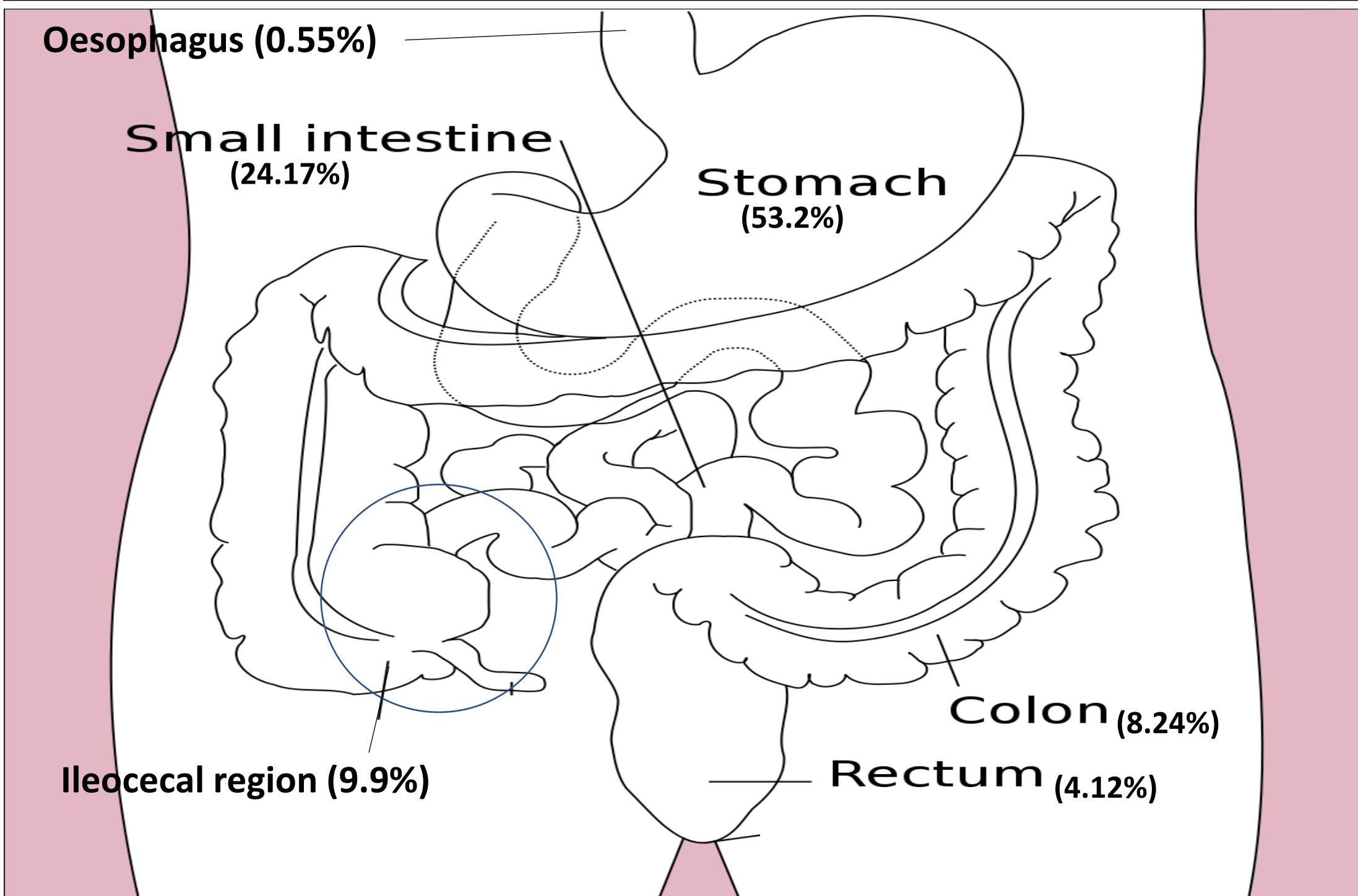


Table 1. Primary GIT lymphomas: Frequency of various histological subtypes

Diagnosis	No. of cases (%)
Diffuse large B cell lymphoma, NOS (DLBCL, NOS)	210 (57.69%)
MALToma	56 (15.38%)
Burkitt's lymphoma (BL)	38 (10.43%)
High grade B cell Non Hodgkin's lymphoma (HGBNHL)	22 (6.04%)
Mantel cell lymphoma (MCL)	13 (3.57%)
Other B cell NHL	11(3.02%)
• Plasmablastic lymphoma (PBL)	5
• Duodenal type follicular lymphoma	3
• ALK+ large B cell lymphoma	1
• EBV + DLBCL, NOS	1
• Immunoproliferative small intestinal disease (IPSID)	1
T cell NHL	14 (3.84%)
• Enteropathy-associated T-cell/ lymphoma	1
• Monomorphic epitheliotropic intestinal T-cell lymphoma	1
• Anaplastic large cell lymphoma, ALK-negative	1
• Extranodal NK/T cell lymphoma	1
• Intestinal T-cell lymphoma, NOS	10

Fig 3. Anatomical site distribution of Primary GIT lymphomas



Discussion & Conclusion

- GIT lymphomas represent approximately 1–10% of all GI malignancies
- Stomach is the most common site of GILs (53.2%), which is in concordance to the western reports in that stomach is the commonest site for GIT lymphoma
- DLBCL, a morphologically heterogeneous type of lymphoma, is the commonest histological subtype of PGL in most of the studies. In current study DLBCL, NOS form 57.69% of the cases, followed by MALToma and Burkitt's lymphoma
- Males were more affected than females in our study with a male to female ratio of 3:1
- PGL of intestine are more common than stomach to undergo exploratory laparotomy to resect segment of obstruction and intussusception
- In our study, gastric involvement had a better OS and PFS than intestinal involvement. However, the difference did not reach statistical significance

Table 3. Age distribution of Primary GIT lymphomas

Age	DLBCL, NOS	BL	MALToma	HGBCNHL	MCL	Other B cell NHL	T cell NHL	Total
≤ 18	5	27	2	2	0	0	2	38
19-60	145	10	42	18	8	7	7	237
> 60	60	1	12	2	5	4	5	89

Figure 4, shows a case of DLBCL, NOS where intestinal wall is infiltration by large sized atypical lymphoid cells (4A & 4B), and the large atypical lymphoid cells are diffusely positive for CD20 (4C)

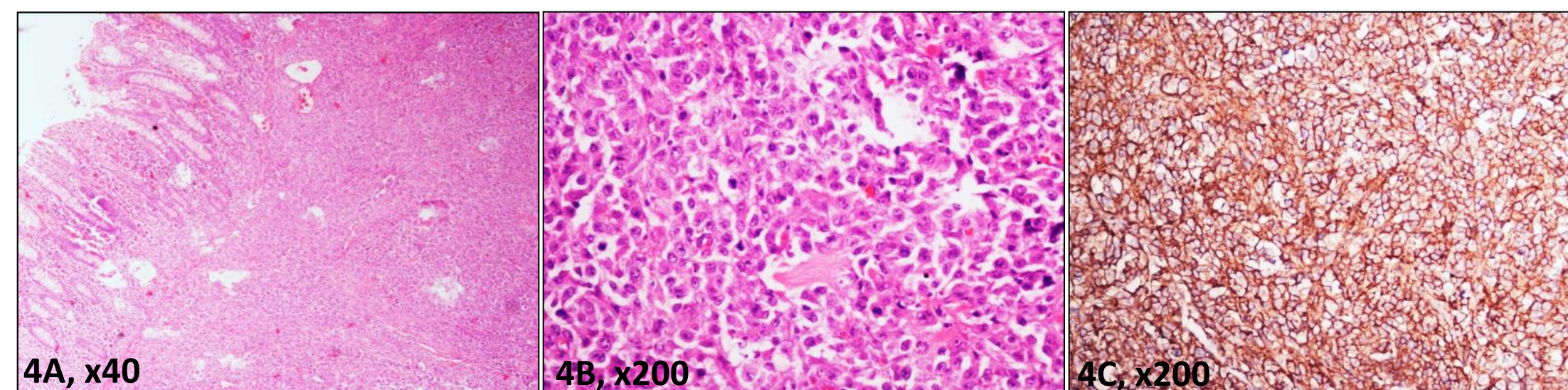


Figure 5, shows a case of MALToma where intestinal mucosa is infiltrated by small sized atypical lymphoid cells (5A) with lymphoepithelial lesions (5B), and the atypical lymphoid cells are diffusely positive for CD20 (5C)

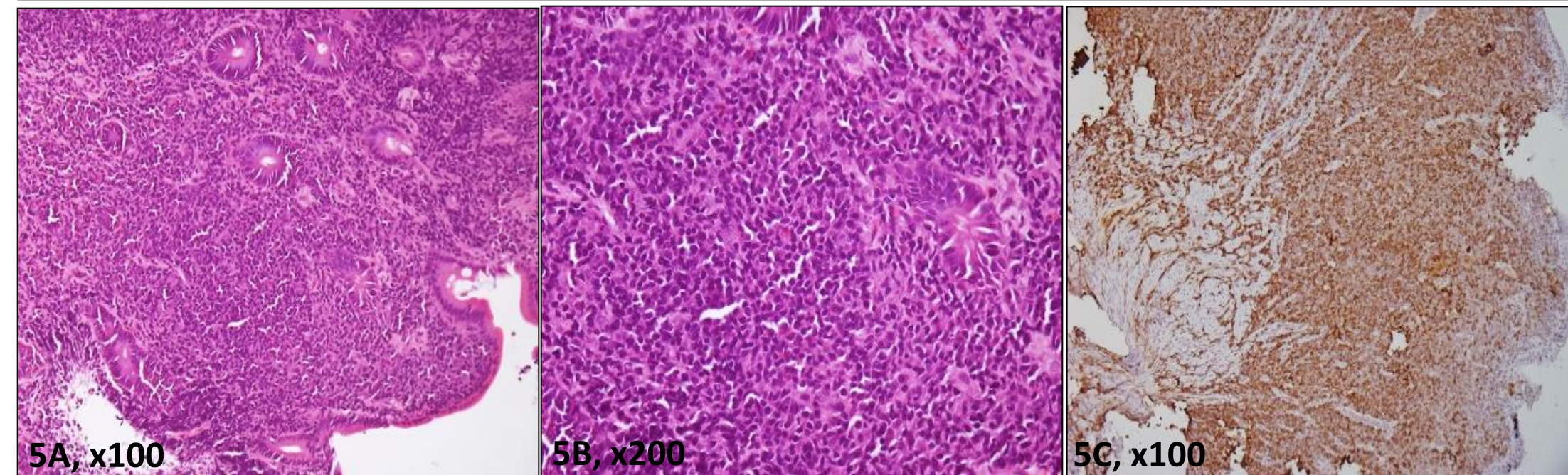


Figure 6, shows a case of Burkitt's lymphoma where intestinal wall is infiltration by monomorphic population of intermediate sized immature lymphoid cells with brisk mitotic activity and tingible body macrophages (6A & 6B), and the tumor cells are diffusely positive for CD20 (6C).

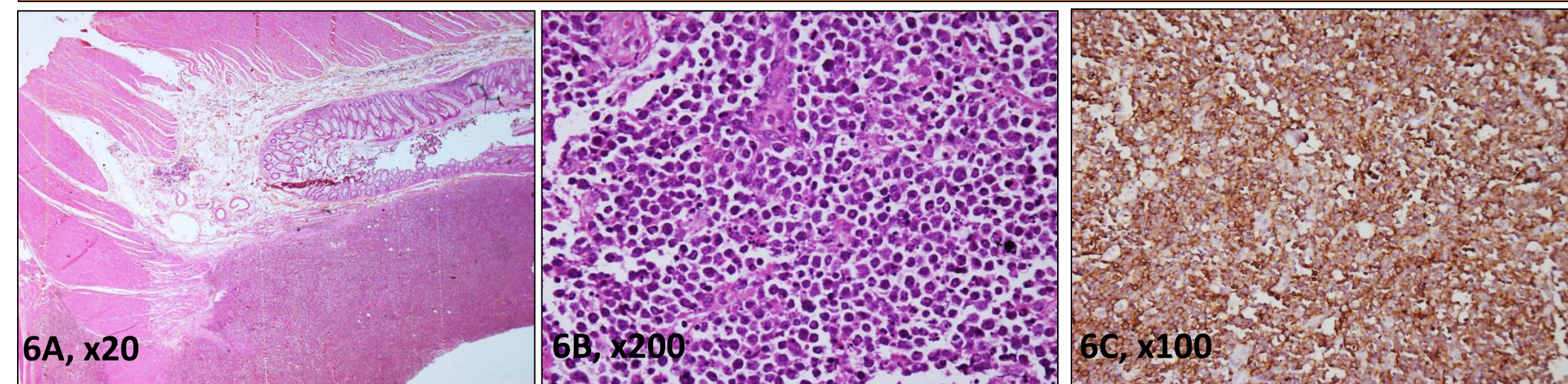
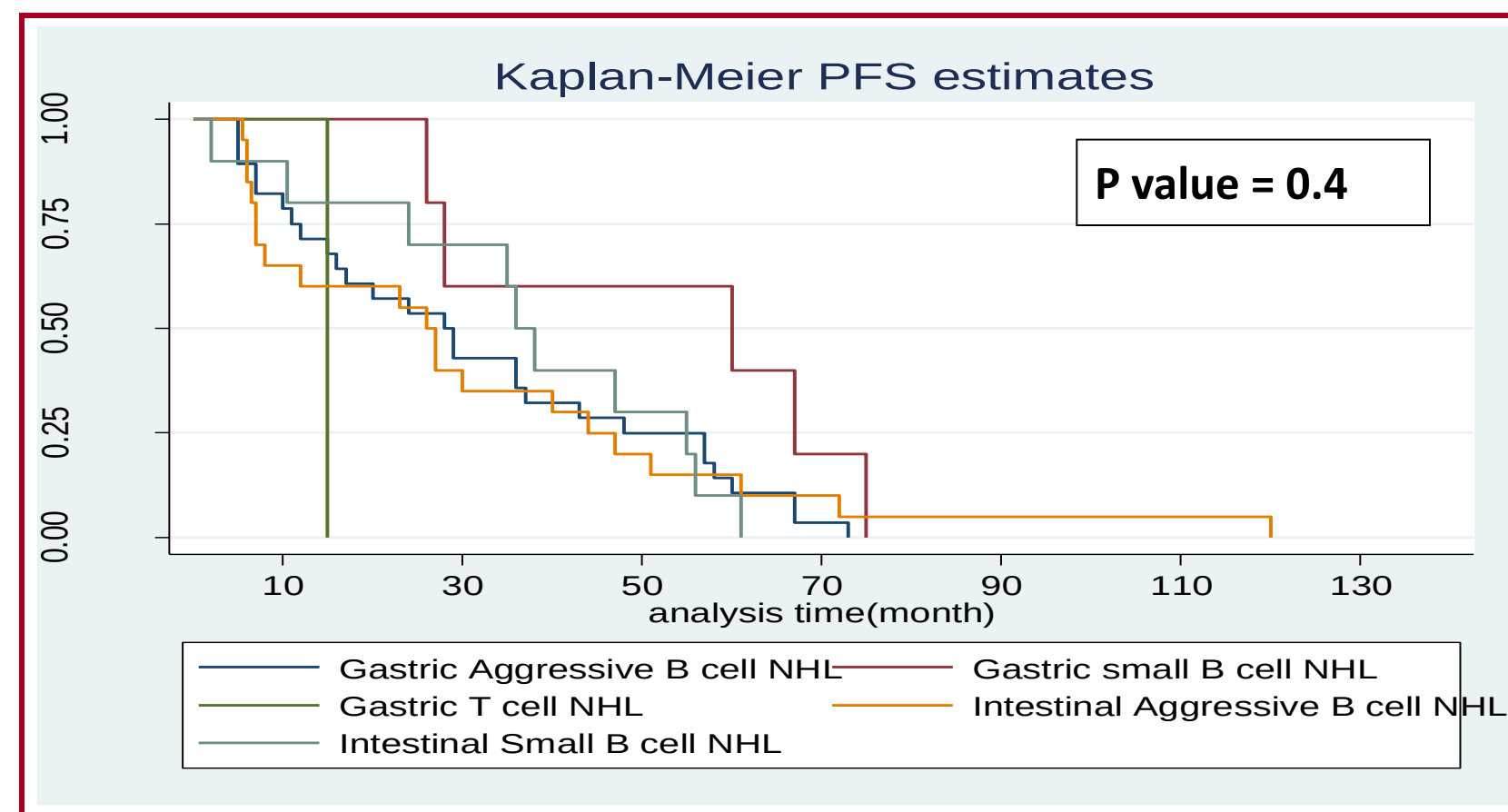


Table 4. Comparison of Clinicopathologic Features and Sites of Origin

Charecteristic	Gastric group (n=195)	Intestinal group (n=169)	P-value
Mean age (yrs)	50.76	42.31	
Gender			0.1
Male	139	133	
Female	56	36	
Lymphoma subtypes			0.4
Aggressive B cell lymphomas	149	128	
Small B cell NHL	44	29	
T cell NHL	2	12	
Charecteristic	Gastric group (n=37)	Intestinal group (n=38)	P-value
Stage			0.9
I/II	18	18	
III/IV	18	21	
B symptoms			0.5
Present	20	23	
Absent	17	15	
LDH			0.2
Raised	23	28	
Normal range	14	10	
Bulky disease			0.3
>7cm	17	22	
<7cm	20	16	
Treatment			
Surgical	1	0	
Non-surgical	35	19	
Both	1	19	
Response to treatment			0.2
CR	22	29	
PR	9	6	
PD	6	3	



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