Primary Gastrointestinal Lymphoma in Guatemala: A Retrospective Cohort Study at the IGSS

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Introduction

Primary gastrointestinal lymphoma (PGL) is a rare form of extranodal non-Hodgkin lymphoma, comprising up to 20% of these cases. Diffuse large B-cell lymphoma (DLBCL) is the most common and aggressive subtype, whereas mucosa-associated lymphoid tissue (MALT) lymphoma is indolent and often associated with Helicobacter pylori. Data from Latin America remain scarce.

Aim

To describe clinical, pathological, and therapeutic features of PGL and assess mortality-related factors in a Guatemalan tertiary care hospital.

Objectives

This study aimed to describe the clinical, pathological, and therapeutic characteristics of primary gastrointestinal lymphoma (PGL), and to evaluate potential mortality-related factors in patients diagnosed and treated at a tertiary care center in Guatemala. By analyzing demographic patterns, histological subtypes, disease stage at diagnosis, and treatment outcomes, the objective was to contribute to the limited regional data and identify markers associated with poor prognosis in this population.

Methods

We conducted a retrospective cohort study at the Instituto Guatemalteco de Seguridad Social (IGSS), Hospital General de Enfermedades, from January 2023 to January 2025. Adult patients with histologically confirmed primary gastrointestinal lymphoma—specifically diffuse large B-cell lymphoma (DLBCL) or MALT lymphoma—were included. Data were extracted from medical records and pathology reports, including demographic information, presenting symptoms, Lugano staging, Helicobacter pylori status, Ki-67 proliferation index, treatment approach (R-CHOP, surgery, or combined), and clinical outcomes. A univariate analysis was performed to compare survivors and non-survivors in relation to clinical and laboratory variables.

Results

A total of 11 adult patients with primary gastrointestinal lymphoma were included. The median age was 57 years (range 18–89), and the majority were male (91%). The most common presenting symptoms were upper gastrointestinal bleeding (54%), abdominal pain (45%), and weight loss (36%).

Tumor locations included the gastric antrum (45%), small intestine (27%), and other sites such as duodenum and colon. Histologically, diffuse large B-cell lymphoma (DLBCL) predominated, representing 91% of cases, while only one patient had MALT lymphoma. Most cases (over 90%) were diagnosed at advanced Lugano stages (IIE or IV).Helicobacter pylori was detected in 45% of patients, exclusively in the MALT subgroup.

Regarding treatment, 9 patients received R-CHOP chemotherapy, and 3 required surgical intervention either for diagnosis or acute complications such as obstruction or bleeding. The median Ki-67 index was 70.5%, but it was significantly higher among non-survivors (median 80.7% vs. 60.2%, p = 0.02).

Hypoalbuminemia, melena, and severe anemia (Hb <8 g/dL) were more frequent in patients who died. Overall mortality was 36% (4/11), and all deaths occurred in patients with DLBCL, mainly those with small bowel involvement. No significant differences in age (p = 0.63) or sex were observed between survivors and non-survivors. Follow-up data showed that most surviving patients achieved complete response after 6 cycles of R-CHOP.

CASE	AGE	SEX	ORIGIN	CHIEF COMPLAINT	SYMPTOM DURATION	PATOLOGIA	LOCATION	H.pylori	CHEMOTHERAPY	SURGERY	FOLLOW-UP (MONTHS)	DISEASE OUTCOME
1	49	M	Guatemala	UGIB	10 days	DLBCL	C+ F	Positive	R CHOP	-	1	D
2	86	M	Guatemala	UGIB	14 days	DLBCL	A	Not performed	R CHOP	-	1	S
3	63	M	Guatemala	AP	3 days	DLBCL	ID	Not performed	R CHOP	IR	5	D
4	66	M	Quetzaltenango	AP	7 days	DLBCL	C	Positive	R DA EPOCH	IR	2	S
5	57	F	Quetzaltenango	AP	1 week	DLBCL	A	Not performed	OTROS	PG	4	S
6	60	M	Guatemala	AP	1 week	DLBCL	IM	Not performed	POLA/B-CHOP	-	4	S
7	33	M	Suchitepequez	UGIB	4 days	DLBCL	ID	Positive	R CHOP	IR	9	S
8	89	M	Guatemala	UGIB	10 days	DLBCL	A	Positive	R MINI CHOP	-	3	S
9	49	M	Guatemala	UGIB	18 days	MALT	A	Not performed	CHOP	PG	12	S
10	31	M	Santa Rosa	AP	2 weeks	DLBCL	IM	Not performed	ST	-	2	M
11	46	M	Guatemala	UGIB	20 days	DLBCL	ID	Not performed	POLA R CHOP	-	11	M

Abbreviations used: DLBCL = Diffuse large B-cell lymphoma; MALT = Mucosa-associated lymphoid tissue lymphoma; UGIB = Upper gastrointestinal bleeding; AP = Abdominal pain; C = Colon; F = Fundus; A = Antrum; ID = Duodenum; IM = Ileum; IR = Intestinal resection; PG = Partial gastrectomy; ST = Supportive treatment; POLA = Polatuzumab; D= Dead; S = Survival.

Summary

This retrospective cohort study describes the clinical and pathological features of primary gastrointestinal lymphoma (PGL) in a Guatemalan tertiary care center. Most patients presented with advanced-stage diffuse large B-cell lymphoma (DLBCL), while only one case of MALT lymphoma was identified. The predominant symptoms were gastrointestinal bleeding and abdominal pain, with a notable percentage of tumors located in the stomach and small intestine. Helicobacter pylori was found only in the MALT case. Mortality was high (36%) and occurred exclusively in DLBCL cases, particularly those with small bowel involvement. Non-survivors had higher Ki-67 indices, lower albumin levels, and more frequent severe anemia. These findings suggest that PGL in this setting is often diagnosed at late stages and is associated with adverse prognostic markers.

Discussion

Our study highlights the predominance of aggressive histologic subtypes, particularly DLBCL, in primary gastrointestinal lymphoma cases in Guatemala. Most patients were diagnosed at advanced Lugano stages, reflecting delayed endoscopic access or nonspecific early symptoms. Mortality was notably high and confined to DLBCL cases, especially those with small bowel involvement, which may reflect delayed recognition and limited surgical options. The significant association between elevated Ki-67 and mortality aligns with previous studies linking proliferation index to aggressive clinical behavior. The detection of H. pylori only in MALT cases supports its etiologic role and reinforces the importance of biopsy and microbiological assessment. Our findings underline the need for earlier diagnosis through improved access to endoscopy, routine immunohistochemistry, and multidisciplinary management to improve outcomes in Latin American populations.

References

1. Al-Akwaa AM, Siddiqui N, Al-Mofleh IA. (2004). Primary gastric lymphoma. World Journal of Gastroenterology, 10(1), 5–11. https://doi.org/10.3748/wjg.v10.i1.5
2. Juárez-Salcedo LM, Sokol L, Chavez JC, Dalia S. (2018). Primary Gastric Lymphoma, Epidemiology, Clinical Diagnosis, and Treatment. Cancer Control, 25(1), 1073274818778256. https://doi.org/10.1177/1073274818778256
3. Jaffe ES. (2009). The 2008 WHO classification of lymphomas: implications for clinical practice and translational research. Hematology. American Society of Hematology. Education Program, 2009(1), 523–531. https://doi.org/10.1182/asheducation-2009.1.523

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