# A Clinicopathological Analysis Of Primary Gastric Lymphoma

*LAILA FARES .MD, *MANAL M.ABDELWAHAB MD, *WALID A.BAYOMY MD, **HAYTHAM ABDELKADER MSC.

## Introduction:

Primary gastrointestinal lymphoma represents the most common location of extranodal lymphoma (1).The stomach represents 50-75% of the gastrointestinal tract localizations (2). Primary gastric lymphomas are divided into indolent (low grade) and aggressive (high grade) types. They are mainly the disease of middle age, with a male predominance reported by most of the studies (3). Controversy remains regarding the best treatment for early stages of the disease. Chemotherapy, Surgery and combination have been studied and shared almost comparable results with survival rate of 70-90%. However, chemotherapy possesses the advantage of preserving gastric anatomy (4). Recent years have seen a dramatic paradigm shift in the treatment approach to the most common gastrointestinal lymphomas, i.e. DLBCL and MALT lymphoma of the stomach. While surgery had been the main stay of treatment for decades, it has now virtually been abolished due to the absence of a beneficial effect as compared to conservative therapy (5). The discovery of an association between Helicobacter pylori (HP) and gastric MALT lymphoma and the subsequent reports of lymphoma regression following HP-eradication have revolutionized treatment options for such patients. HP-eradication is currently considered standard first-line therapy in patients with gastric MALT lymphoma and evidence of HP-infection, with complete responses being obtained in roughly 75% of selected patients [My paper] (6). Also combined modality treatment by chemo-radiation for localized gastric lymphoma is associated with a low risk of treatment related complications, with avoidance of long term sequelae after gastric resection (7). In DLBCL of the stomach, the association with HP-infection is less pronounced than in MALT lymphoma at roughly 50% of patients. While gastric DLBCL had also been subjected to surgery in order to prevent bleeding and perforation during subsequent chemotherapy and radiation, it has been demonstrated that such prophylactic surgery is not necessary with the consequent application of a high dose proton pump inhibitors for the whole duration of therapy. In addition, the relapse rate and survival are not beneficially influenced by additional surgery, while quality of life may be severely impaired. Most large studies have been performed combining anthracycline - based chemotherapy and radiation therapy (5). The response rate after Chemotherapy was 90%, while after radiotherapy it was 100%, only 10% of patients had relapse after ending treatment. Only one case died during the follow up Table 2.

Grade I nausea and vomiting was the most frequent complication of chemotherapy among studied patients followed by Grade I myelosuppression where only 25% of patients complained from it Fig 2

Grade I anorexia was the most common complication of radiotherapy among studied patients followed by Grade I nausea and vomiting where 40% of patients complained from it Fig 3.

The mean overall survival time was 21 months, from the survival curve; the survival rate was estimated at 24 months to be 94.7%. The mean disease free survival time was 19.97 months, from the survival curve; the disease free survival rate was estimated at 12 and 24 months to be 98.7% and 94.2% respectively. There was no significant difference between male and females, high and low grade type, different tumor stage, H.Pylori infection, increased LDH level, fungating or ulcerating mass as regarding the mean survival time and mean disease free survival time. Significant association between B2 microglobulin increase and relapse of patients, as 50% of relapsed patients had an increase in B2 microglobulin. Highly significant association between LDH increase during follow up and occurrence of relapse as 100% of relapsed patients showed increases LDH levels during follow up, on the other hand none of the non-relapsed patients had elevated LDH.

**Discussion**:

Although numerous reports have been published on primary gastrointestinal non-Hodgkin's lymphoma (GI NHL), there remain many outstanding questions concerning its clinical features and the optimal method of treatment that have not been fully addressed over the years (8). Treatment strategies in nodal NHL are well established, but there still remains much debate and controversy regarding the optimal approach in GI NHL, particularly in gastric lymphoma. Surgery, radiotherapy, and chemotherapy have been used alone or in various combinations. In the current study the male to female ratio was 1:1 which is a bit different from that usually reported higher male to female ratio of Primary Gastric Lymphoma (PGL). This may be due to the smaller size of the sample, the median age was 43.4 years, and the main presenting symptom was pain in about 45 % of cases followed by loss of appetite in 20 % where hematemesis was only in 10% of cases. B symptoms were present in 20% of cases, H Pylori infection was positive in 55 %, stage IIEA/B represents 65% of cases while Stage IEA/B represents only 35%, LDH level which is considered one of the important prognostic factors was elevated in 6 patients at presentation (30%) of cases also elevated levels during follow up was highly indicative for recurrence as it was elevated in 100% of relapsed cases. B2 Microglobulin was elevated in 10% of cases at presentation which also could be used as a prognostic factor as it was elevated in 50% of relapsed cases.

*** Oncology Department of Ain Shams University.**
**** Oncology Department of Ahmed Maher Teaching Hospital**

Regarding the histopathology 90% of cases was high grade were 10% was intermediate grade (mixed large cells and small cleaved cells). CR was achieved in 100% of cases after completion of treatment protocol i.e. full chemotherapy course and radiation therapy course while PR was achieved in 10% of cases after completion of chemotherapy only. The Response Rate (RR) was 90% after completion of chemotherapy while after radiotherapy it was 100%. The mean Disease Free Survival (DFS) time was 19.97 months, from the survival curve; the rate of Disease Free Survival was estimated at 12 and 24 months to be 98.7% and 94.2% respectively also it is important to say that relapse occurs in the form of systemic relapse i.e. generalized lymphadenopathy which emphasis on the role of radiotherapy as consolidation treatment after achieving either partial or complete response as no local recurrence have occurred. The mean Overall Survival (OS) time was 21 months, from the survival curve; the survival rate was estimated at 24 months to be 94.7% there is only one patient died and it is important to mention that death occurred after systemic relapse. Complications and toxicity of combined modality treatment in our serious was very minimal and tolerable only one case complained from repeated vomiting after finishing treatment protocol and investigations shows cardiac atresia which was corrected by balloon dilation. Also compilations of chemotherapy were very minimal and tolerable and were mainly grade I neuotropenia and GIT symptoms "vomiting", no cardiological affection have occurred.

Table (1): Description of personal and clinical characteristics of patients

| Parameter | | N | % |
|---|---|---|---|
| sex | | | |
| | Female | 10 | 50.0 |
| | Male | 10 | 50.0 |
| Age | | | |
| | <45 | 10 | 50.0 |
| | >=45 | 10 | 50.0 |
| Presentation | | | |
| | Pain | 9 | 45.0 |
| | Loss of appetite | 4 | 20.0 |
| | Loss of Weight | 3 | 15.0 |
| | Haematemesis | 2 | 10.0 |
| | Vomiting | 2 | 10.0 |
| Pathology | | | |
| | High Grade Diffuse large B | 18 | 90.0 |
| | Intermediate Grade Diffuse large B cell | 2 | 10.0 |
| Stage | | | |
| | IEA/B | 7 | 35.0 |
| | IIEA/B | 13 | 65.0 |
| B symptoms | | | |
| | Positive | 4 | 20.0 |
| | Negative | 16 | 80.0 |
| H.Pylori | | | |
| | Positive | 7 | 35.0 |
| | Negative | 13 | 65.0 |
| LDH before treatment | | | |
| | Increased | 6 | 50.0 |
| | Normal | 14 | 50.0 |
| LDH after treatment | | | |
| | Increased | 2 | 10.0 |
| | Normal | 18 | 90.0 |
| Bone Marrow | | | |
| | Negative | 20 | 100.0 |
| B2 Microglobulin | | | |
| | Increased | 2 | 10.0 |
| | Normal | 18 | 90.0 |
| Endoscope | | | |
| | Fungating mass | 13 | 65.0 |
| | Ulcerating mass | 7 | 35.0 |

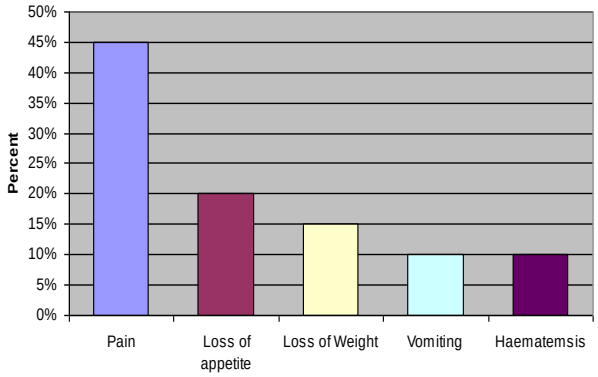


Fig (1): Distribution of cases according to Presentation.

Table 2: Description of patients' response, relapse and final outcome after treatment.

| Parameter | | N | % |
|---|---|---|---|
| Response after Chemotherapy | | | |
| | CR | 18 | 90.0 |
| | PR | 2 | 10.0 |
| Response after Chemotherapy | | | |
| | CR | 20 | 100.0 |
| Relapse | | | |
| | Yes | 2 | 10.0 |
| | No | 18 | 90.0 |
| Outcome | | | |
| | Died | 1 | 5.0 |
| | Lived | 19 | 95.0 |

CR: Complete Response, PR:Partial Response

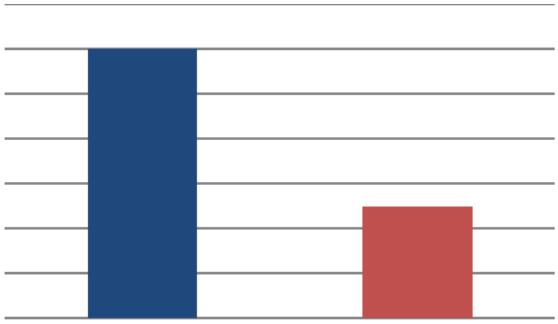

Fig (2): Distrbution of patients complications after chemotherapy

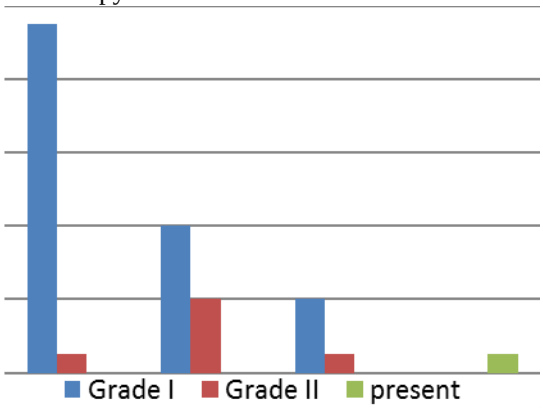


Fig (3): Distribution of patients' complications after radiotherapy

**Conclusion:**

There are no specific symptoms in gastric lymphoma patients; high grade DLBCL is more frequent than intermediate grade. No correlations were found between the survival rates, disease free survival rates with age, gender, B symptoms, LDH level, grade, gross pathology (fungatig or ulcerating), H.Pylori infection. Significant association between B2Microglobulin and occurrence of relapse was found. LDH level is a significant marker for relapse. Response rate was 100%, 2 years Overall Survival and 2 years Disease Free Survival was, 94.7%, 94.2% respectively. Complications and toxicity of treatment were very minimal and tolerable. In conclusion conservative treatment with combined modality treatment is tolerable, effective and feasible. Organ-preserving combined treatment is highly effective and well tolerated for the patients with localized gastric DLBCL.

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