Surgical resection plus chemotherapy versus chemotherapy alone: comparison of two strategies to treat diffuse large B-cell gastric lymphoma

M. Binn1,2, A. Ruskoné-Fourmestraux2,10, E. Lepage3,9, C. Haioun4,9, A. Delmer5,10, P. Aegerter6,10, A. Lavergne7,9, C. Guettier8,9 & J.-C. Delchier1,9*

1Hôpital Henri Mondor, Gastroentérologie, Créteil, Val de Marne; 2Hôpital Hotel Dieu, Gastroentérologie, Paris, Seine; 3Hôpital Henri Mondor, Informatique Médicale, Créteil, Val de Marne; 4Hôpital Henri Mondor, Hématologie Clinique, Créteil, Val de Marne; 5Hôpital Hotel Dieu, Hématologie Clinique, Paris, Seine; 6Hôpital Ambroise Paré, Informatique Médicale, Paris, Seine; 7Hôpital Lariboisière, Anatomopathologie, Paris, Seine; 8Hôpital Paul Brousse, Anatomopathologie, Villejuif, Val de Marne; 9Groupe d’Étude des Lymphomes Agressifs (GELA); 10Groupe d’Étude des Lymphomes Digestifs (GELD), France

Received 8 April 2003; revised 2 July 2003; accepted 12 August 2003

Background: The usefulness of chemotherapy to treat gastric diffuse large B-cell lymphomas (DLBCL) is well known. Whether or not chemotherapy should be performed as the only treatment or after surgical resection is debated. The aim of this study was to compare two strategies: surgical resection plus chemotherapy versus chemotherapy alone.

Patients and methods: Between January 1988 and December 1996, 58 patients included in the trials promoted by the Groupe d’Étude des Lymphomes de l’Adulte (GELA) (LNH-87 and LNH-93) received chemotherapy and 48 included in the protocol of the Groupe d’Étude des Lymphomes Digestifs (GELD) underwent surgical resection followed by chemotherapy. They all presented with localized DLBCL (stage IE and IIE according to the Ann Arbor classification). From the GELA group, seven patients received additional radiotherapy. Gastrectomy was total in 27 of the 48 patients in the GELD group. In both groups chemotherapy included anthracyclin and alkylating agents. Chemotherapy was more intensive in the GELA group than in the GELD group.

Results: In the GELA and the GELD groups, distribution according to sex ratio, age (>60 or ≤60 years), ECOG performance status (≥2 or <2) and staging (IE or IIE) was similar. Univariate analysis comparing prognostic factors in both groups showed significant differences: serum lactate dehydrogenase level above normal (28.6% versus 2.4%, \( P = 0.001 \)), tumor size >10 cm (28.6% versus 12.5%, \( P = 0.04 \)), patients with International Prognostic Index (IPI) >1 (21.4% versus 11.1%, \( P = 0.168 \)) and 5-year survival (79% versus 90%, \( P = 0.03 \)). Multivariate analysis of prognostic factors with a Cox model showed that IPI was the only independent prognostic factor (odds ratio 3, \( P = 0.03 \)). Consequently, patients with IPI 0–1 were selected for comparison between the GELA group (44 patients) and the GELD group (40 patients). There was no significant difference between the two groups. Median follow-up was 59 months (range 3–128). Estimates of 5-year survival rates and event-free survival rates were 90.5% versus 91.1% (\( P = 0.303 \)) and 85.9% versus 91.6% (\( P = 0.187 \)), respectively. In the GELA group, seven of 44 patients died: five from a lymphoma-unrelated cause and two from tumor progression. In the GELD group, four of 40 patients died: two of unrelated causes and two from tumor progression.

Conclusions: This study shows that in localized gastric DLBCL with IPI 0–1, a similar 5-year survival rate (>90%) is to be expected with either surgery plus chemotherapy or chemotherapy alone.

Key words: chemotherapy, large B-cell lymphoma, stomach, surgery, treatment

Introduction

The stomach is the most common site of extranodal malignant lymphoma, and primary gastric lymphomas account for 1–7% of all gastric malignancies. An increased incidence has been documented recently [1–3].

Prognosis of gastric lymphomas has improved: it has been estimated that the 5-year survival rate increased from 37% in 1965 to 60% in 1994 [4]. This is due to the improvements in diagnostic procedures and in the therapeutic approach. Survival has been shown to depend on histological grade at presentation. Patients with low-grade B-cell lymphoma of mucosa-associated lymphoid tissue (MALT) have a better prognosis than patients with diffuse large B-cell lymphoma (DLBCL) [5–7]. The relationship between Helicobacter pylori infection and low-grade B-cell lymphoma of MALT has been established, and up to 80% of cases were shown...
to respond to eradication of the bacterium [8]. In contrast, the management of primary gastric DLBCL remains controversial. Classically, the treatment of localized gastric lymphoma was based on surgery, alone or followed by chemotherapy and/or radiation therapy [9–11]. Surgery was undertaken to confirm histopathological diagnoses, to perform adequate staging and to reduce the tumoral mass. The need for surgery as a diagnostic procedure has decreased and is now restricted to lymphoma not accessible to endoscopic procedures [12]. The need for surgery as a staging tool also decreased as abdominal computed tomography, and more recently endoscopic ultrasonography, became available [13]. Nevertheless, many authors, taking account of high survival rates observed in surgical series, continue to favor surgical resection as the first step of a multimodality approach [11, 14, 15].

Some investigators have suggested that surgical resection can perhaps be avoided, sparing most patients the risk and the discomfort related to gastrectomy. Encouraging results were obtained by using chemotherapy alone or in association with radiation therapy [16–19]. Some authors reported results at least similar to those obtained with primary surgery, but definitive conclusions were difficult to draw because most studies were retrospective and concerned short series of patients [20]. Moreover, most enrolled patients presented with different stages of disease, different sites (stomach and small or large bowel) and different histopathology [21].

The aim of this study was to compare two strategies in a population of localized primary gastric DLBCL: surgical resection and chemotherapy versus chemotherapy alone.

Patients and methods

Patients

All consecutive patients with localized primary gastric DLBCL enrolled in the two prospective multicentric studies of the GELA (Groupe d’Étude des Lymphomes de l’Adulte) and the GELD (Groupe d’Étude des Lymphomes Digestifs) between January 1988 and December 1996. The data from these 140 patients were analyzed in this study. Inclusion criteria were diffuse large B-cell gastric lymphoma with stage IE and IIE according to the Ann Arbor staging system as modified by Musshoff [22]. Mediterranean lymphoma, human immunodeficiency virus-related lymphoma and post-transplantation lymphoma were not included.

The therapeutic strategy of the GELA was a conservative treatment based on chemotherapy alone or in association with radiation therapy. The therapeutic strategy of the GELD was initial surgery combined with chemotherapy. To compare these two strategies, patients from the GELA group who did not undergo primary surgery were excluded from the study.

Histopathology

Although histological documents had been reviewed previously for each patient before inclusion in the protocols of the GELA and the GELD groups, a new review was performed for this study by two specialized pathologists on all available histological documents. The tumor review was performed on paraffin sections stained with hematoxylin–eosin safran, Giemsa, CD20 and CD3 antibodies. The diagnosis of DLBCL was based on a diffuse pattern, a cytology consisting of large cells resembling centroblasts or immunoblasts and positivity of CD20 staining. The following additional parameters were assessed systemically: aggressivity of large cells for epithelial structures, presence of anaplastic large cells and underlying low-grade MALT lymphoma. Additional immunostaining for CD30 was performed when anaplastic large cells were disclosed.

Lymphomas were classified according to the World Health Organization (WHO) classification [23] and Isaacson’s classification of digestive lymphomas [24].

Staging procedure

Patients were staged by physical examination, routine hematological and biochemical investigations, chest radiography, abdominal computed tomography, endoscopy of the upper gastrointestinal tract and bone marrow biopsies. Patients from the GELD group also underwent colonoscopy or barium enema and small bowel radiography. Extension of the disease was defined according to the Ann Arbor staging system as modified by Musshoff [22].

Tumoral mass was assessed from endoscopy of the upper gastrointestinal tract and/or abdominal computed tomography. For patients who underwent surgery, tumoral mass was evaluated during laparotomy. Tumors were separated into two groups according to their diameter (>10 cm or ≤10 cm).

Main clinical features and International Prognostic Index (IPI)

The clinical features evaluated for potential prognostic importance were: sex, age, tumor stage, performance status and serum concentration of lactate dehydrogenase (LDH). Performance status was defined according to the Eastern Cooperative Oncology Group (ECOG) scale [25]. Serum LDH level was considered elevated when it was above the normal range. The prognosis of patients was assessed following criteria of the International Non-Hodgkin’s Lymphoma Prognostic Factor Project [26]. The variables included as risk factors in the IPI were: age >60 years, elevated serum LDH level, performance status >1, stage III–IV and number of extranodal disease sites >1. Because our patients were selected for localized disease no one had more than one extranodal site of disease either stage III or IV. The risk groups were assessed by the total sum of the number of risk factors present at diagnosis. Three risk groups resulted: low risk (0–1 risk factor), low intermediate risk group (two risk factors), high intermediate risk group (three risk factors). Considering the low number in these last two groups, patients with two or three risk factors were pooled in the same risk group called the intermediate risk group.

Treatments

Patients from the GELA group underwent a medical strategy therapy according to LNH-87 and LNH-93 regimens. These regimens consisted of an induction phase of three or four courses of chemotherapy followed by a consolidation phase consisting of chemotherapy or adjuvant local radiotherapy more or less late intensification and autologous bone marrow transplantation, depending on the randomization group. Details of the chemotherapy regimens of protocols LNH-87 and LNH-93 have been reported elsewhere [27, 28]. They included CHOP (adriamycin, cyclophosphamide, oncovin, prednisone) or CHOP-like regimens and high-dose CHOP regimens (ACVB/P/NCVB/P/ECVB; adriamycin/mitoxantrone/epirubicin, cyclophosphamide, prednisone, vindesine, bleomycin; and VIM3: mitoxantrone, ifosfamide, methyl-GAG, vrehem, prednisone, methotrexate).

Patients from the GELD group underwent primary gastric resection followed 3–4 weeks later by chemotherapy. The cytotoxic drugs were administered according to the AVmCP (adriamycin, teniposide, cyclophosphamide, prednisolone), PACOB (adriamycin, cyclophosphamide, vincristine, bleomycin, prednisolone) and MACOP-B (adriamycin, cyclophosphamide, vincristine, methotrexate, bleomycin, prednisolone) protocols. Patients received three to four courses of these regimens.
Table 1. Main characteristics of the patients in the GELA and GELD groups

<table>
<thead>
<tr>
<th></th>
<th>GELA No. of patients (%)</th>
<th>GELD No. of patients (%)</th>
<th>Chi-square test</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>33 (56.9)</td>
<td>30 (62.5)</td>
<td></td>
<td>0.559</td>
</tr>
<tr>
<td>Female</td>
<td>25 (43.1)</td>
<td>18 (37.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤60</td>
<td>30 (51.7)</td>
<td>28 (58.3)</td>
<td></td>
<td>0.496</td>
</tr>
<tr>
<td>&gt;60</td>
<td>28 (48.3)</td>
<td>20 (41.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ann Arbor stage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>39 (67.2)</td>
<td>34 (70.8)</td>
<td></td>
<td>0.691</td>
</tr>
<tr>
<td>II</td>
<td>19 (32.7)</td>
<td>14 (29.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tumoral mass (cm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤10</td>
<td>40 (71.4)</td>
<td>42 (87.5)</td>
<td></td>
<td>0.04</td>
</tr>
<tr>
<td>&gt;10</td>
<td>16 (28.6)</td>
<td>6 (12.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤1</td>
<td>51 (89.5)</td>
<td>40 (83.3)</td>
<td></td>
<td>0.356</td>
</tr>
<tr>
<td>&gt;1</td>
<td>6 (10.5)</td>
<td>8 (16.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serum LDH level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤Normal</td>
<td>40 (71.4)</td>
<td>40 (97.6)</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>&gt;Normal</td>
<td>16 (28.6)</td>
<td>1 (2.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–1</td>
<td>44 (78.6)</td>
<td>40 (88.9)</td>
<td></td>
<td>0.168</td>
</tr>
<tr>
<td>&gt;1</td>
<td>12 (21.4)</td>
<td>5 (11.1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GELA, Groupe d’Étude des Lymphomes de l’Adulte; GELD, Groupe d’Étude des Lymphomes Digestifs; IPI, International Prognosis Index; LDH, lactate dehydrogenase.

Response assessment

In the GELA group, response to treatment was assessed at the completion of induction and consolidation therapy. In the GELD group, response to treatment was evaluated after surgical resection and consolidation chemotherapy. In both groups, response to treatment was assessed regularly using a diagnostic work-up including all pretherapeutic lymphoma manifestations. Complete response was defined as disappearance of all clinical and histological evidence of disease and normalization of laboratory values. When patients demonstrated persistent radiological abnormalities at sites of previous bulky tumors, they were deemed to show complete response if the reduction of tumoral mass was >75%. Partial response was defined as >50% regression of initial tumor. Relapse from complete remission was defined by the appearance of a new lesion or increase in previous mass considered as fibronecrotic.

Statistical analysis

End points were survival rate and event-free survival rate. Survival was calculated from the date of randomization to death or last day known alive; event-free survival was calculated from the date of randomization to death, relapse or last day known to be free of disease. Survival curves were calculated by the Kaplan–Meier method [29] and the differences between the curves were evaluated by the log-rank test. Intergroup comparisons were made by the chi-square test. Univariate analyses were performed using the log-rank test. To identify which factors might be of independent significance in influencing survival, a Cox’s stepwise proportional hazard model [30] was fitted with some variables used for the univariate studies.

Results

Patient characteristics and prognostic factors

Among the 140 patients initially included in the study, 27 patients from the GELA group who received chemotherapy after gastric resection and six patients from the GELD group who did not undergo surgery were excluded. After histological review, one patient from the GELD group who was not confirmed at the final pathological review as a DLBCL was also excluded. One-hundred and six patients were therefore evaluated for response to treatment and survival: 58 in the GELA group who underwent medical treatment based on chemotherapy and 48 in the GELD group who underwent primary surgical procedure followed by chemotherapy.

The histological review was carried out in 76% of the patients. These documents included 44 endoscopic gastric biopsies and 37 surgical specimens. In the GELA group, underlying low-grade MALT lymphoma was present in two patients, absent in 31 and not evaluable in 11. In the GELD group, underlying low-grade MALT lymphoma was present in 13 patients, absent in 22 and not evaluable in two. Two patients in the GELD group had anaplastic large B-cell lymphoma.

The overall mean age of studied subjects was 56 years (range 25–76). Sex ratio was 1.32 in the GELA group and 1.7 in the GELD group.

Table 1 shows the main characteristics of the patients from the GELA and GELD groups. Distribution according to sex, age (≤60 or >60 years), performance status (≥2 or <2) and stage (IE or IIE) was similar in both groups. The number of patients with elevated LDH level and tumoral mass >10 cm was significantly higher in the GELA group than in the GELD group. IPI was calculated for the 101 patients in whom the risk factor data for the assignment of IPI was available. Eighty-four patients had 0–1 risk factor (low risk) and 17 patients had two or three risk factors (intermediate risk). The number of patients with an IPI >1 was higher in the GELA group (21.4%) than in the GELD group (11.1%), but the difference did not reach statistical significance (P = 0.168).

Table 2 summarizes the 5-year overall survival according to the main characteristics of the patients. Univariate analysis did not show any significant differences in survival according to gender, performance status, tumoral mass, Ann Arbor stage and LDH level. Patients aged ≤60 years had a significant better survival than patients aged >60 years (P = 0.0083). Patients with IPI 0–1 had a significant better survival (P = 0.0147) than patients with IPI >1. Patients from the GELD group had a significant better survival than patients from the GELA group (P = 0.0306). Nevertheless, multivariate analysis with a Cox model including IPI and the type of treatment as variables, demonstrated that IPI was the only independent prognostic factor [risk ratio 3.00 (95% CI 1.11–8.21), P = 0.03]. The treatment was not an independent prognostic factor. Therefore, patients with IPI 0–1 were selected for comparison between the GELA group and the GELD group. Forty-four
patients from the GELA group and 40 patients from the GELD group were compared regarding survival. The population was well balanced in the two groups according to the main characteristics (Table 3).

All the 40 patients from the GELD group underwent primary gastrectomy (total in 21 patients, partial in 19 patients). Except one patient who did not receive consolidation chemotherapy because of a difficult compliance, they all received three or four courses of additional chemotherapy consisting of AVmCP (37 patients), PACOB (one patient), MACOP-B (one patient). Adjuvant local radiotherapy was not administered in this group.

The 44 patients from the GELA group with IPI 0–1 received chemotherapy: CHOP or CHOP-like (23 patients), high-dose CHOP (21 patients). The mean number of courses of chemotherapy was six (range 2–11), including induction and consolidation chemotherapy. Seven patients received additional radiotherapy (40 Gy).

**Response to treatment and survival**

The median follow-up of surviving patients was 59 months (range 3–128).

In the GELA group, 44 patients were evaluable for response to treatment. Forty patients (91%) achieved a complete response after chemotherapy. Thirty-nine patients achieved a complete response after the induction phase (presence of a mesenteric mass) but achieved a complete response after consolidation therapy consisting of four courses of chemotherapy (disappearance of the mesenteric mass). Three patients (6.9%) had no response to chemotherapy. One received adjuvant chemotherapy and died soon after the start of treatment from progressive disease and gastric perforation. The two remaining patients underwent gastrectomy. One achieved complete response after gastrectomy followed by autologous bone marrow transplantation, the other died from progressive disease (diffuse bone marrow involvement) after gastrectomy. The remaining patient died from pulmonary embolism during induction chemotherapy. During follow-up neither local nor distant recurrences were noted in any patient of this group.

In the GELD group 40 patients were evaluable for response to treatment. They all achieved complete response. Thirty-eight (95%) patients had complete surgical resection and two (5%) patients had incomplete surgical resection but complete response...
was obtained after chemotherapy. During follow-up, two (5%) patients relapsed. They both died from progressive disease despite rescue therapy (one intensified chemotherapy, one autologous bone marrow transplantation).

At last follow-up, 37 (84%) patients from the GELA group were alive without evidence of disease. Four of them underwent gastrectomy, two for progressive disease, one for benign antral stenosis and one to rule out a doubt of incomplete response to chemotherapy. Seven patients (16.2%) died in the GELA group. One patient died of pulmonary embolism during induction chemotherapy, two patients died of progressive disease and four patients died of unrelated causes (one pulmonary embolism, one ovarian tumor, one neuroendocrine tumor, one myocardial infarction) while in complete remission from their lymphoma for >2 years.

In the GELD group, 36 patients (90%) were alive without evidence of disease at the end of follow-up. Four patients (10%) died in this group. Two patients died of unrelated causes (one from Kaposi disease, his HIV status was negative; one from cardiac deficiency) while in complete remission from their lymphoma, and two patients died of progressive disease. They both had anaplastic large B-cell lymphoma.

The actuarial estimate of overall survival at 5 years was 90.5% in the GELA group and 91.1% in the GELD group. The actuarial estimate of event-free survival at 5 years was 85.9% in the GELA group and 91.6% in the GELD group. There was no significant difference in the overall survival ($P = 0.303$; Figure 1), and event-free survival probability ($P = 0.187$; Figure 2) between the two groups.

**Discussion**

The aim of the present study was to provide comparison of medical and surgical therapeutic strategies in a well-defined population of localized primary gastric DLBCL. Our results show a 5-year survival rate $>90\%$ in the subgroup of patients with IPI $0–1$ whatever the therapeutic approach, suggesting that gastrectomy in this subgroup of low-risk patients is probably not mandatory.

Despite many reports in the literature, the management of primary gastric DLBCL is still controversial. Although surgical resection prior to chemotherapy represents for several authors the treatment of choice for localized gastric lymphoma [5, 9, 10, 14], the role of stomach-conserving therapies for gastric-localized lymphomas has been emphasized recently [16–18].

Some studies have already agreed on the feasibility and effectiveness of the non-surgical approach [16, 18, 19]. In 1997, Tondini et al. [17] reported a 6-year survival rate of 88% for 17 patients with primary localized gastric DLBCL treated with chemotherapy with or without consolidation radiotherapy. More recently, Raderer et al. [31] reported a prospective study of 25 patients with localized primary gastric DLBCL treated with chemotherapy alone (CHOP or CHOP-like regimens). The complete response rate was 100% and 22 patients were alive without evidence of disease at a median follow-up of 24 months.

Our results are also in agreement with a recent published report from Liu et al., who compared the medical and surgical strategy in primary localized gastric DLBCL [32]. In this study, 59 patients were included retrospectively: 38 underwent chemotherapy alone and 21 underwent surgery followed by chemotherapy. The long-term survival of the patients was 72.6% in the medical group and 77.8% in the surgical group ($P <0.05$).

Nevertheless, our results conflict with those of several authors who suggest that complete or incomplete surgical resection is a favorable prognostic factor of survival [11, 14]. Most of these reports are difficult to analyze because of the high heterogeneity of the patients studied.

Fischbach et al. [33] recently reported their data concerning 196 patients with primary localized gastric high- and low-grade
lymphoma, who underwent surgical resection followed by chemotherapy. Patients with high-grade lymphoma and complete resection had a significant better prognosis than those with macroscopic tumor residues (incomplete or no resection) and the authors concluded that resection remained the treatment of choice. Nevertheless, no clear data were given about the characteristics of patients who did not undergo complete resection, and the better survival of patients submitted to surgery could be as well related to the therapeutic approach itself as to the better prognosis of the patients at inclusion. This highlights the fact that to accurately compare two therapeutic strategies, selection of patients with the same prognosis is mandatory.

Therefore, in the present study, we evaluated the pronostic relevance of the IPI in our population of primary gastric DLBCL. This index was shown to be an effective prognostic model, more accurate than the Ann Arbor classification, to predict long-term survival in aggressive non-Hodgkin’s lymphomas [26]. Determination of IPI was based on a population of whom 16% had a gastrointestinal tract lymphoma. However, the value of this index had not previously been evaluated in gastric lymphoma. In the present study, comparing survival between the low-risk group and the intermediate-risk group showed that patients in the low-risk category had a statistically significant survival advantage as compared with the intermediate-risk group. Moreover, the IPI was shown to be the only independent prognostic factor in multivariate analysis. These results suggest that IPI has a prognostic value in predicting survival in localized gastric lymphoma and that IPI should be more widely used in the design of therapeutic trials in patients with localized gastric DLBCL. These results are in agreement with those of Ibrahim et al. [34], who found that survival was significantly higher for patients in the low-risk category as compared with survival of the other three groups. Others suggested that a modified IPI could be more accurate than the initial IPI to predict survival in localized gastric DLBCL [35–37].

In the present study, no relapse was observed in the GELA group, and only two patients in the GELD group relapsed. It should be noted that both patients had anaplastic B-cell lymphoma, although it has recently been shown that this histological subtype does not have a poorer prognosis than other DLBCL [38, 39].

In the present study, no mortality related directly to the treatment was observed. This remarkable result has to be compared with the 1–10% post-operative mortality rate reported in other studies [11, 12], and the rate of mortality related to chemotherapy (≈2%) reported in previous studies [16, 40].

It has been pointed out by some authors that surgery might reduce the risk of bleeding or perforation during chemotherapy. In recent reports, a rate of bleeding and/or perforation of 5% was observed [16, 17, 31]. These adverse events usually occurred in patients with deep tumor ulceration, and some authors suggested the use of endoscopic ultrasonography to identify high-risk patients who should be considered for surgery. In the present study, no gastric bleeding was observed and only one patient receiving initial chemotherapy developed gastric perforation. Moreover, the gastric perforation arose in a patient with progressive disease and was then related to tumoral progression and not to chemotherapy. The difference with previous reports could at least partly be due to the selection of patients with IPI 0–1.

In conclusion, this study showed that, nowadays, in localized primary gastric DLBCL with IPI 0–1, a similar 5-year survival rate (>90%) is to be expected with surgery and chemotherapy or chemotherapy alone. Prolonged follow-up should allow comparison, according to therapeutic strategy, of long-term tolerance of chemotherapy and impact of gastrectomy on nutritional status and quality of life.

References