Primary Colonic Lymphoma: An Analysis of 74 Cases With Localized Large-Cell Lymphoma

Tzung-Chih Tang, Ming-Chung Kuo, Hung Chang, Po Dunn, Po-Nan Wang, Jin-Hou Wu, Tung-Liang Lin, Yu-Shin Hung, Lee-Yung Shih, Tseng-Tong Kuo

1Division of Hematology-Oncology, Department of Internal Medicine, Chang Gung Memorial Hospital, Taipei, Taiwan; 2Department of Pathology, Chang Gung Memorial Hospital, Taipei; 3College of Medicine, Chang Gung University, Taoyuan, Taiwan
Background

Primary colonic lymphoma (PCL)

1. Rare disease. Comprising 20-40% of extranodal NHL, less than 10% of all NHL and 1% of all colonic malignancies.

2. Behaving more aggressive histology and poorer outcome compared with lymphomas from other GI tract.

3. Surgical resection play a key role, but the optimal treatment remained controversial.

4. Postoperative chemotherapy improved outcomes, but treatment with chemotherapy alone can affect overall survival (OS) or progression-free survival (PFS) is still unclear.
Objectives

1. To identify the possible prognosis factors and to compared the outcomes of various treatment modalities.

2. To determine rituximab can accentuate the treatment efficacy in diffuse large B-cell lymphoma (DLBCL) patients.

3. To clarify if pre-surgical diagnosis followed by chemotherapy alone is advisable so that the surgical risk/cost can be possibly saved and the colon function fully maintained.
Patients and Methods

1. Feb. 1979 and Oct. 2010. 96 patients diagnosed PCL at CGMH.

2. 74 cases with stage IE or IIE, large-cell type PCL were eligible. Accounting for 17.4% of GI tract lymphomas, 2.2% of all NHL at CGMH.

   Stage IE/IIE: tumor confined to the colon without/with regional lymph node involvement

3. The response to treatment was assessed after completion of 4 cycles of chemotherapy.

4. Kaplan-Meier and log-rank test for analyzing OS and PFS. Two-tailed $p$-value of less than 0.05 is defined as statistically significance.
Demographics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>No.</th>
<th>%</th>
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<tbody>
<tr>
<td>Gender</td>
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<tr>
<td>Male</td>
<td>50</td>
<td>67.6</td>
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<tr>
<td>Female</td>
<td>24</td>
<td>32.4</td>
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<tr>
<td>Age</td>
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<tr>
<td>&gt;60</td>
<td>32</td>
<td>43.2</td>
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<tr>
<td>≤60</td>
<td>42</td>
<td>56.8</td>
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<tr>
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</tr>
<tr>
<td>IE</td>
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<td>IIE</td>
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<tr>
<td>Bulky disease</td>
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<tr>
<td>&gt;10 cm</td>
<td>24</td>
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<td>67.6</td>
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<tr>
<td>Albumin&lt; 30g/L</td>
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<tr>
<td>B symptom</td>
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<td>15.7</td>
</tr>
<tr>
<td>LDH&gt; upper limit</td>
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</table>
Demographics

Clinical features

- Abdominal pain (n=36)
- Bleeding (n=11)
- Palpable mass (n=8)
- Bowel habit changes (n=7)
- Perforation (n=5)
- Weight loss (n=3)
- Obstruction (n=2)
- Ischemic bowel (n=1)
- No symptom (n=1)
Demographics

Sites of involvement

- Ileocecal region (n=43) - 58%
- Cecum (n=12) - 16%
- Colon excluding the cecum (n=12) - 16%
- Recto-sigmoid (n=7) - 9%

Cell types

- Diffuse large B-cell (n=44) - 59%
- Diffuse large-cell (n=16) - 22%
- Immunoblastic (n=13) - 18%
- Follicular grade 3 (n=1) - 1%
Factors that might have affected the prognosis

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<td>0.5782 (Univariate analysis)</td>
<td>0.4438</td>
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Factors that might have affected the prognosis

Whether lymphoma in the ileocecal region should be considered colonic lymphoma and sites of involvement are relevant to prognosis.
Treatment and Outcome

Treatment including surgery

1. 66/74 underwent surgery to debulk the tumor or to obtain a tissue proof.

2. Methods:

- R’t hemicolecotemy (n=46) - 70%
- L’t hemicolecotemy (n=7) - 11%
- Simple resection (n=9) - 14%
- LAR (n=2) - 3%
- APR (n=1) - 2%
- Colostomy bypass (n=1) - 2%
Treatment and Outcome

Treatment including surgery

Whether resection of the colonic lymphoma was significantly beneficial?

44/66 (66.7%) complete resection
11/66 (16.7%) incomplete resection: debulked main tumor with margin not free from lymphoma; lymphoma in other sites or regional lymph node

Overall Survival

Progression-free Survival

$p=0.1741$

$p=0.0347$
Treatment and Outcome

Treatment including chemotherapy

40/44 complete resection and 10/11 incomplete resection p’t received chemotherapy. 16 received chemotherapy alone. (6 received surgery only)
Treatment and Outcome

Treatment including chemotherapy

46 received CHOP-based chemotherapy. 20 received COP-based chemotherapy.
Treatment and Outcome

For patients with DLBCL

Whether rituximab-based treatment can affect the outcome?

12 patients were diagnosed between 2006 and 2010.

<table>
<thead>
<tr>
<th>Regimen</th>
<th>IPI≤1</th>
<th>Median age (range)</th>
<th>Stage II</th>
<th>Bulky disease</th>
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<tr>
<td>Res + rituximab + C/T (n=5)</td>
<td>3</td>
<td>4</td>
<td>47.0 (28-81)†</td>
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<tr>
<td>Rituximab + C/T (n=7)</td>
<td>4</td>
<td>5</td>
<td>72.2 (52-86)†</td>
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†p = 0.0354
Treatment and Outcome

For patients with DLBCL

Whether rituximab-based treatment can affect the outcome?
Treatment and Outcome

Overall survival: 60.4% (5-yr.), 50.7% (10-yr.)

Rate of complete remission (CR) and relapse:

Res + C/T (n=50) vs C/T alone (n=16)

CR rate; \( p = 0.1447 \)

Relapse rate; \( p = 0.7139 \)
Pre-surgical diagnosis

From 2003 to 2010, 25 patients diagnosed with PCL

16/25 (64%) underwent colonoscopic exams, and 12 biopsies were obtained.

8/12 (66.7%) confirmed PCL.

17/25 (68%) received surgical intervention.

9/17 (52.9%) did not undergo colonoscopic exams prior to surgery. None of them had bowel perforation or life-threatening bleeding before surgery.
Conclusions

1. Localized large-cell type PCL can be successfully treated with chemotherapy alone. Complete resection of tumor only improved PFS.

2. No OS and PFS difference between patients treated with CHOP-based chemotherapy alone and CHOP +surgery.

3. Rituximab-based chemotherapy provide benefits in older DLBCL patients who are not suitable for surgery.

4. Tissue diagnosis using less invasive approach should be attempted prior to exploratory surgery.