Lymph node counts from colon cancer resections

April 2010

By: Shelly Smits, RHIT, CCS, CTR
Ian Thompson, MD

Presented: Cancer Committee Meeting on May 13, 2010

Data Source: Cancer registry information on colon cancers diagnosed in 1/1/2008 through 12/31/2009.

Reason for Report: A review of the Cancer Program Practice Profile Reports (CP3R) study of 2004-2007 colon cancer measure which sets the standard of removing 12 lymph nodes at the time of colon cancer surgery showed compliance had markedly improved from 2004 to 2007. This study was performed to assess whether this improved compliance was being maintained.

Previous study results: In 2007, changes were made within the Pathology Department regarding evaluation of colectomy specimens for lymph nodes. A dedicated pathologist’s assistant was hired to do all of the gross examinations. If 12 lymph nodes were not identified at the time of initial inspection, the specimen was to be revisited after fixation in an attempt to identify further nodes. After which, if the minimum number of lymph nodes is not identified, additional techniques may be considered including fat dissolving mediums.

Study inclusions and exclusions: The CP3R Measure evaluated states: “At least 12 regional lymph nodes are removed and pathologically examined for resected colon cancer (12LN).”

The following is an excerpt from the CP3R study on cancers to be excluded from analysis:

Not Eligible Colon Cases

12RLN – NE Records displayed in this table represent patients that are not eligible the 12 regional lymph node (12RLN) measure for colon cancer because they failed to satisfy the initial overall eligibility requirements for measure assessment due to one or a combination of the following reasons:

- Pediatric case;
- Not a first or only cancer diagnosis;
- Tumor histology not stagable by AJCC 6th edition;
- In-situ cancer;
- Metastatic cancer;
- No part of first course therapy administered by the reporting cancer program;
- Case was not surgically treated;
- Local tumor destruction or excision;
- Unknown if surgically treated.

**Not Applicable 12RLN Colon Cases**

12RLN – NA Records displayed in this table represent patients that are not applicable for eligible the 12 regional lymph node (12RLN) measure for colon cancer due to one of the following reasons:

- Patient received neo-adjuvant systemic and/or radiation therapy;
- Surgical resection not performed at the reporting cancer program.

**Findings:** For 2007, per the CP3R website, 85.3% of the eligible colon cancer cases had 12 or more lymph nodes removed on resection. This was a marked improvement from the previous years by a factor of 33%. For the years 2008 and 2009, the percentage which achieved the standard was 92.9% and 84.6% respectively. The breakdown for 2008 and 2009 are as follows:

2008 – 54 resections were done.
- 26 were not eligible for the reasons listed above.
- 28 met the criteria for the study.
- 26/28 (92.9%) cases had 12 or more lymph nodes removed. (One had only 5 LN found even on a second search; the other case had 10 LN removed with no mention of a second search.)

2009 – 50 resections were done.
- 11 were not eligible for the reasons listed above.
- 39 met the criteria for the study
- 33/39 (84.6%) cases had 12 or more lymph nodes removed. (two had 9 LN found; one had 10 LN found and three had 11 LN found) There was no mention of additional searches for additional lymph nodes.
This table shows the most recent information from the Commission on Cancer (CoC) website in regards to the Colon Cancer lymph node measure. It compares St. Joseph Hospital with Washington State as well as all CoC approved programs.

<table>
<thead>
<tr>
<th>FACILITY SELECTION</th>
<th>ALL MEASURES SUMMARY</th>
<th>THIS MEASURE SUMMARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least 12 regional lymph nodes are removed and pathologically examined for resected colon cancer. [12RLN]</td>
<td>Diagnosis Year: 2007 (Last Update: Apr 20, 2010)</td>
<td>Perf. Rate</td>
</tr>
<tr>
<td>My Cancer Program</td>
<td>85.3 %</td>
<td>(73.4 - 97.2)</td>
</tr>
<tr>
<td>My State (WA)</td>
<td>78.2 %</td>
<td></td>
</tr>
<tr>
<td>My ACS Division (Great West)</td>
<td>76.3 %</td>
<td></td>
</tr>
<tr>
<td>My Census Region (Pacific)</td>
<td>73.7 %</td>
<td></td>
</tr>
<tr>
<td>My CoC Program Type (COMP)</td>
<td>76.6 %</td>
<td></td>
</tr>
<tr>
<td>All CoC Approved Programs (ALL)</td>
<td>75 %</td>
<td></td>
</tr>
</tbody>
</table>

Interpreting this table: The estimated performance rates shown in this table provides your cancer program with an indication of the proportion of patients undergoing colon resection that had an adequate lymph node examination. These rates are computed based on data directly reported from your registry to the NCDB using specifications endorsed by the NQF. Comparison groups include other CoC-approved cancer programs that are classified with the same approvals category (community cancer program, comprehensive community cancer program, or teaching/research center), and by geographical location (state, US census region, or nationally). Rates are computed based on data directly reported from CoC approved cancer program registries to the NCDB. The performance rates, 95% confidence intervals around those rates, and the number of cases included in the denominator are updated nightly for each comparison group.

The vertical bar chart is simply a graphical representation of the rates reported in the preceding table.

The Hi-Low chart illustrates a cancer program's relative position, when compared to other programs located in the same state. The x-axis of the chart represents each of the cancer programs. Your cancer program will be displayed as a red vertical bar. The y-axis represents the proportion of cases with at least 12 regional lymph nodes pathologically examined. Cancer programs are displayed in ascending order from left to right; the programs with the lowest proportion of patients having at least 12 nodes examined on the left, and the highest proportion of patients with at least 12 RLN examined on the right.
Conclusion: It is felt that with the process improvement begun in 2007, colon cancer patients are being appropriately staged for colon cancer. Pathology and General Surgery both strive to reach the accepted CAP cancer committee guidelines of retrieving 12 lymph nodes per case. If 12 lymph nodes are not identified at the time of initial inspection, the specimen will be revisited after fixation in an attempt to identify further nodes. After which, if the minimum number of lymph nodes is not identified, additional techniques may be considered including fat dissolving mediums.

It was noted on review that cases with less than 12 nodes found did not have statements that additional examination was performed. The Pathology Department reviewed those cases and confirmed that the policy of review is strictly being followed. Pathology reports will specifically state that pathology reports with less than 12 nodes found have had an additional search for additional nodes.

The percentage of patients meeting this goal has held steady since the last review. It is reassuring that the standard is being met in so many patients well above regional and national standards.

Of note, the previous review also evaluated the recommendation that all patients with Stage IIB and Stage III Rectal Cancer receive both Medical and Radiation Oncology consultation. There remains 100% compliance for stage IIB or III rectal cancer obtaining radiation therapy or consults.

References: