Pattern of Bladder Cancer recurrences after Neoadjuvant Chemotherapy
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INTRODUCTION
• Estimated 79,000 new cases of bladder cancer and 17,000 attributable deaths in the U.S.1,2
• Recurrence rate after Radical Cystectomy (RC) is 30%,3,4
• 1/3 of patients who undergo RC die from metastatic disease5
• Curative therapy is very rare in patients with recurrences6
• In esophageal cancer there is data to support a significant difference in recurrence frequency and location pattern after Neoadjuvant Chemotherapy (NAC)7
• Two studies investigated the location pattern of Bladder Cancer recurrences after NAC in comparison to RC with contrasting results8,9
• Hypothesis: there will be no difference in the pattern of recurrence in those that have NAC in comparison to RC alone.

METHODS
• Retrospective Analysis of electronic medical record to identify all patients who underwent RC at KUMC between 2008 and 2016
• Comparisons between “NAC”, “Adjuvant” and “RC only” using 2-sample t-tests for interval data and Fisher's exact test for categorical data

RESULTS
Table 1. The frequency of recurrence location per therapy and its significance

<table>
<thead>
<tr>
<th>Location</th>
<th>NAC only</th>
<th>Adjuvant chemotherapy</th>
<th>RC only</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of patients</td>
<td>55(32%)</td>
<td>7(13%)</td>
<td>78(27%)</td>
<td>0.032</td>
</tr>
<tr>
<td>Total number of patients</td>
<td>1</td>
<td>1</td>
<td>18</td>
<td>0.01</td>
</tr>
<tr>
<td>with multiple recurrences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of separate</td>
<td>56</td>
<td>8</td>
<td>107</td>
<td>-</td>
</tr>
<tr>
<td>recurrences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cystectomy bed</td>
<td>7(12.5%)</td>
<td>0</td>
<td>14(18%)</td>
<td>0.263</td>
</tr>
<tr>
<td>Pelvic lymph nodes</td>
<td>5(9%)</td>
<td>0</td>
<td>6(7%)</td>
<td>0.455</td>
</tr>
<tr>
<td>Lung</td>
<td>16(29%)</td>
<td>2(29%)</td>
<td>19(24%)</td>
<td>0.238</td>
</tr>
<tr>
<td>Liver</td>
<td>3(5%)</td>
<td>1(14%)</td>
<td>10(13%)</td>
<td>0.577</td>
</tr>
<tr>
<td>Bone</td>
<td>4(7%)</td>
<td>0</td>
<td>13(17%)</td>
<td>0.172</td>
</tr>
<tr>
<td>Extrapleural lymph node</td>
<td>7(12.5%)</td>
<td>1(14%)</td>
<td>15(19%)</td>
<td>0.582</td>
</tr>
<tr>
<td>Peritoneal carcinomatosis</td>
<td>5(9%)</td>
<td>3(42%)</td>
<td>12(15%)</td>
<td>0.588</td>
</tr>
<tr>
<td>Urethra</td>
<td>1(2%)</td>
<td>0</td>
<td>11(13%)</td>
<td>1</td>
</tr>
<tr>
<td>Upper urinary tract</td>
<td>4(7%)</td>
<td>0</td>
<td>8(10%)</td>
<td>0.595</td>
</tr>
<tr>
<td>Other</td>
<td>3(5%)</td>
<td>1(14%)</td>
<td>9(10%)</td>
<td>0.674</td>
</tr>
</tbody>
</table>

SUMMARY
• 172 patients received NAC, 55 had recurrences
• 293 received RC alone, 78 had recurrences
• No significance in the number of patients or total recurrences between the 2 groups.
• The number of patients to experience multiple recurrences was significantly greater in RC only (p value =0.01)

CONCLUSION
• Our data suggested that there is no difference in the recurrence pattern or frequency in those that undergo NAC or “RC only”
• Thus it is likely that there is no significant alteration in physiology of recurrence for those who receive NAC
• No need to alter the imaging guidelines based upon the our findings

WEAKNESSES & FUTURE WORK
• Retrospective analysis inherent bias
• Disproportionate number of patients who received “RC only” had higher mortality after surgery and/or had follow-up at an outside facility
• Future: Identify the earliest recurrence and potential pathways of metastatic spread

Credits/Disclosures/References
Instructions

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