Can a Post-Discharge Telephone Call Reduce Hospital Readmission after Colorectal Surgery? A Prospective Study

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Can a Post-Discharge Telephone Call Reduce Hospital Readmission after Colorectal Surgery? A Prospective Study.

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Abstract

Background
Hospital readmission after major colorectal surgery is a major economic burden and a benchmark of quality care by government agencies [1]. We hypothesized that a post-discharge telephone follow-up (TFU) could reduce readmission after abdominal colorectal surgery.

Methods
Consecutive patients undergoing abdominal colorectal surgery over the 4-month period ending Oct 2016 were prospectively evaluated. A structured TFU call during the 4-day period after hospital discharge evaluating the patient's clinical status and possible interventions to avoid readmission was conducted by a second-year medical student, supervised by two board certified colorectal surgeons [2]. Readmission rates were compared to a control group undergoing abdominal colorectal surgery by the same surgeons not receiving TFU over the prior 12-month period. Low-complexity surgery was defined as small bowel resection, right colectomy, creation or revision of ileostomy or colostomy. High-complexity surgery included left or total colectomy, or proctectomy with or without diversion. Groups were compared using Fisher's exact test.

Results
The TFU patient group (n=74) and control patient group (n=134) were well matched in all clinical and operative characteristics except for case complexity. TFU group patients were more likely to undergo low-complexity surgery (n=41;55%) compared to control group patients (n=35;26%) (p=0.004). Readmission rates were significantly lower in the TFU patient group (n=6;18%) and control patient group (n=9;14%). For patients undergoing low-complexity surgery, readmission rates were not statistically different between the TFU patients (n=6;18%) and control patients (n=9;14%). For patients undergoing low-complexity surgery, readmission rates were significantly lower in the TFU patient group (n=3;7%) compared to the control patient group (n=12;34%) (p=0.004).

Conclusions
A simple, post discharge medical student-led phone call significantly reduced the rate of readmission after low-complexity but not high-complexity colorectal surgery. Readmission after high-complexity colorectal surgery appears unpreventable. We recommend early post-discharge telephone follow-up to reduce readmission after abdominal colorectal surgery.

Clinical Features

Well-Matched Clinical Characteristics

<table>
<thead>
<tr>
<th>Phone Call (n=74)</th>
<th>No Phone Call (n=134)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex (M/F)</td>
<td>38/36</td>
</tr>
<tr>
<td>Median Age At Surgery (Range)</td>
<td>48 (16-74)</td>
</tr>
<tr>
<td>Median Postoperative Duration In Days (Range)</td>
<td>3 (1-15)</td>
</tr>
</tbody>
</table>

Readmission Rates By Surgery Type

<table>
<thead>
<tr>
<th>Surgery Type</th>
<th>No Phone Call (n=134)</th>
<th>Phone Call (n=74)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-Complexity (n=99)</td>
<td>14 (14%)</td>
<td>6 (18%)</td>
</tr>
<tr>
<td>Low-Complexity (n=35)</td>
<td>12 (34%)**</td>
<td>3 (7%)**</td>
</tr>
<tr>
<td>Total (n=134)</td>
<td>26 (19%)</td>
<td>9 (12%)</td>
</tr>
</tbody>
</table>

• For patients undergoing low-complexity surgery, readmission rates were significantly lower for the patients who received the phone call compared to the control group (p=0.004)
• We recommend an early post-discharge telephone follow-up to reduce readmission following colorectal surgery.

References