Randomized Clinical Trial of Chewing Gum After Laparoscopic Colorectal Resection

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Background

- Chewing gum may enhance intestinal motility after surgery
- This trial studied whether chewing gum could further reduce ileus in patients who underwent laparoscopic colorectal resection and followed an enhanced recovery program

Method

- Patients underwent laparoscopic colorectal resection were randomized into the control or intervention group.
-Patients in the control group received a standardized recovery program. In the interventional group patients were, in addition, given chewing gum three times daily from day one until discharge.
- The primary outcome measures were time to first flatus and first bowel motion. Time to feeling hungry and hospital stay were secondary outcome measures.
- This study was registered at the clinicaltrials.gov (NCT02419586).
# Overall outcomes

<table>
<thead>
<tr>
<th></th>
<th>Control (n=41)</th>
<th>Chewing gum(n=41)</th>
<th>P *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time to first flatus (h)</td>
<td>34(7-144)</td>
<td>18(5-90)</td>
<td>0.007</td>
</tr>
<tr>
<td>Time to first bowel motion (h)</td>
<td>44(9-152)</td>
<td>19(5-81)</td>
<td>0.001</td>
</tr>
<tr>
<td>Time to first sensation of hunger (h)</td>
<td>25(12-132)</td>
<td>16(4-67)</td>
<td>0.001</td>
</tr>
<tr>
<td>Duration of hospital stay (days)</td>
<td>5.5(3-26)</td>
<td>5(3-23)</td>
<td>0.142</td>
</tr>
</tbody>
</table>

Values are median (range). * Mann-Whitney U test

## Postoperative complications

<table>
<thead>
<tr>
<th></th>
<th>Chewing gum (n=41)</th>
<th>Control (n=41)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complications:</td>
<td></td>
<td></td>
<td>0.21</td>
</tr>
<tr>
<td>Chest infection</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Retention of urine</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Wound infection</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Anastomotic bleeding</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Outcomes in patients with and without a stoma</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Time to first flatus (h)</td>
</tr>
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Discussion

Chewing gum
- influence intestinal activity within a standardized care package
- Simple, cheap and well tolerated intervention
- No report of patients experienced adverse effects though potential minor side effects reported before
- Benefits of chewing gum is clearer in patient without stoma (shorter time to first flatus, bowel motion and sensation of hunger)
- Benefits of chewing gum in patient with stoma creation is only time to first flatus

Conclusion
- Gum chewing is a simple and well tolerated intervention that can reduce ileus in patients managed with enhanced recovery program after laparoscopic colorectal resection