Endoscopic loop ligation has been shown to be successful in the removal of a variety of large mucosal and submucosal tumors of the gastrointestinal tract, such as lipomas, leiomyomas, lymphangiomas, carcinoid tumors, and Brunner's adenomas [1–4]. However, immediate release of the endoscopic loop after ligation of the tumor may fail to eradicate the lesion in one session [1,2]. We therefore evaluated the effect of holding on to the ligating loop for 15 minutes prior to its release on the rate of complete resection in one session, which therefore avoided a second session of loop ligation.

Four patients (3 men, 1 women; age range 51–74) underwent loop ligation of a pedunculated gastrointestinal tumor (Table 1). A 30-mm diameter Olympus PolyLoop (Olympus Medical Systems Inc., Center Valley, Pennsylvania, USA) was placed around the stalk and tightened. The lesion was closely observed for evidence of change in color to the characteristic dusky hyperemic appearance of congested vascular mucosa. In patient #1, the loop was released immediately in the first procedure as described in the literature [5]. A repeat procedure was performed 3 months later to ligate the residual lipoma. Patients #2 and #3 underwent loop ligation of colonic pedunculated submucosal lipomas. In these patients tension was maintained on the loop for 15 minutes prior to its release (Fig. 1; Video 1). Patient #4 underwent loop ligation of a 3–4-cm pedunculated adenoma with the loop again held for 15 minutes (Fig. 2).

In our small series, endoscopic loop ligation with the loop being held for 15 minutes before release resulted in complete resection of all the lesions. Sustained tension on the endoscopic loop for the initial 15 minutes following ligation may be the optimal time to cause tissue ischemia and damage, which therefore allows complete resection of the lesion in one session. Prolonged endoscopic loop ligation eradicates pedunculated lipomas and adenomas without the need for cautery, thereby also limiting the risk of cautery-related perforation. Further studies are needed to confirm and standardize the techniques for endoscopic loop ligation in the management of different types of gastrointestinal tumors.

Competing interests: None

Endoscopy_UCTN_Code_TTT_1AO_2AG

Video 1

Endoscopic loop ligation of a colonic lipoma with the loop being held under tension for a prolonged period of 15 minutes.


1 Department of Medicine, The Methodist Hospital, Weill Cornell Medical College, Houston, Texas, USA
2 The University of Texas MD Anderson Cancer Center, Houston, Texas, USA
3 Department of Surgery, The University of Texas Medical Branch Galveston, Galveston, Texas, USA
### References


### Bibliography

DOI: http://dx.doi.org/10.1055/s-0032-1326075
Endoscopy 2013; 45: E69–E70
© Georg Thieme Verlag KG Stuttgart · New York
ISSN 0013-726X

### Corresponding author

G. S. Raju, MD
The University of Texas MD Anderson Cancer Center
1515 Holcombe Blvd, GI Division – Unit 1466
Houston, TX 77030-4009
USA
Fax: +1-713-694-5398
gsraju@mdanderson.org

### Table 1

<table>
<thead>
<tr>
<th>Patient number</th>
<th>Age, years</th>
<th>Sex</th>
<th>Site</th>
<th>Size, cm</th>
<th>Diagnosis</th>
<th>Ligation time</th>
<th>Outcome 3–6 months later</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>70</td>
<td>Male</td>
<td>Transverse colon</td>
<td>4–5</td>
<td>Lipoma</td>
<td>Seconds</td>
<td>Residual lipoma</td>
<td>Repeat ligation at 3 months with complete eradication of the lesion</td>
</tr>
<tr>
<td>#2</td>
<td>66</td>
<td>Male</td>
<td>Sigmoid colon</td>
<td>4</td>
<td>Lipoma</td>
<td>15 minutes</td>
<td>Complete resection with a well-healed scar</td>
<td></td>
</tr>
<tr>
<td>#3</td>
<td>51</td>
<td>Female</td>
<td>Transverse colon</td>
<td>5–6</td>
<td>Lipoma</td>
<td>15 minutes</td>
<td>Complete resection with a well-healed scar</td>
<td></td>
</tr>
<tr>
<td>#4</td>
<td>74</td>
<td>Male</td>
<td>Duodenum</td>
<td>3–4</td>
<td>Adenoma</td>
<td>15 minutes</td>
<td>Complete resection with a well-healed scar plus flat lesion distal to the scar</td>
<td>Endoscopic mucosal resection of the flat lesion distal to the lesion with complete eradication of the lesion</td>
</tr>
</tbody>
</table>

Chen WC et al. Prolonged endoscopic loop ligation for removal of gastrointestinal tumors... Endoscopy 2013; 45: E69–E70