Various endoscopic methods have been used successfully to treat Dieulafoy lesions. We describe our experience at one center of successful band ligation of Dieulafoy lesions in 7 patients. [Indian J Gastroenterol 2005;24:114-115]

Bleeding from Dieulafoy lesions, once managed surgically with high mortality, is now efficiently managed endoscopically. While several endoscopic methods of hemostasis have been used successfully for this purpose, of late mechanical methods of hemostasis have been used with impressive results.1

Case Reports
Case files and endoscopic records of patients with Dieulafoy lesions treated at this center between August 1998 and April 2004 were retrieved and the age, sex, co-morbidity, endoscopic findings, hemoglobin level, blood transfusion requirements, and complications were noted. Follow-up details were obtained from file and in two cases by telephonic interview.

A total of 407 patients with upper gastrointestinal (GI) bleed were managed at this center during this period. Of these, 7 cases (1.7%) had Dieulafoy lesions; their mean (SD) age was 59.3 (18.7) years, and 5 were men (Table).

Four cases presented with hematemesis alone, two with melena and hematemesis, and one with melena alone. Diagnostic upper GI endoscopy was done after hemodynamic stabilization. After localization of the lesion, the endoscope was withdrawn and mounted with the ligating device and banding carried out (Fig). The initial 3 cases were done using the Stiegmann-Goff single-band ligator (Bard, Tewksbury, USA) and the latter 4 cases using the Wilson Cook ligating device (Cook; Winston-Salem, USA). Following the procedure they were treated with ranitidine or proton pump inhibitor, and allowed oral feeding after 24 hours.

All lesions were in the stomach, 6 in the proximal body and one in the distal body. Three were on the greater curvature, 2 on the posterior wall, and 2 on the lesser curvature. All lesions had a prominent vessel with minimal erosion around it. One had an adherent clot and another had mild ooze. All the lesions were banded successfully; one lesion required 2 attempts. There was no immediate post procedure complication. One patient preferred to return to his referring doctor. Of the 6 patients who were managed under our care, 5 were discharged within 3 days. One patient with polycystic kidney disease had prolonged hospital stay due to renal failure. There was no recurrence of bleed during the follow up. Follow-up endoscopy was done in 3 patients, all of whom showed an ulcer at the banded site. Endoscopy in one patient after one month showed complete healing of ulcer with no visible vessel.

### Table: Characteristics of patients with Dieulafoy lesion

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Co-morbidity</th>
<th>Location of lesion</th>
<th>Hemoglobin (g/dl)</th>
<th>Blood transfusion (units)</th>
<th>Follow up (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td>M</td>
<td>Polycystic kidneys, ADPKD, chronic renal failure</td>
<td>Lesser curvature 2 cm below cardia</td>
<td>6</td>
<td>-</td>
<td>18</td>
</tr>
<tr>
<td>75</td>
<td>M</td>
<td>Lobar pneumonia</td>
<td>Proximal body greater curvature</td>
<td>6.3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>60</td>
<td>M</td>
<td>Nil</td>
<td>Distal body</td>
<td>6.8</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>76</td>
<td>M</td>
<td>Fracture neck femur; previous vagotomy, gastro-jejunosotomy</td>
<td>Proximal body greater curvature</td>
<td>5.0</td>
<td>3</td>
<td>24</td>
</tr>
<tr>
<td>60</td>
<td>F</td>
<td>Nil</td>
<td>Mid body lesser curvature</td>
<td>7.0</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>59</td>
<td>F</td>
<td>Hypertension, heart failure, NSAID use for backache</td>
<td>2 cm below cardia lesser curvature</td>
<td>5.9</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

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Discussion

The Dieulafoy lesion is a caliber-persistent submucosal arteriole that erodes the mucosa and causes hemorrhage. It accounts for 0.3%-6.7% of all causes of upper GI bleed. A majority of lesions occur in the proximal stomach within 6 cm of the cardia. The endoscopic diagnosis is based on established criteria: active arterial spurting or micropulsatile streaming from a minute mucosal defect less than 3 mm; visualization of a protruding vessel with or without active bleeding within a minute mucosal defect with normal surrounding mucosa; densely adherent clot with a narrow point of attachment to minute mucosal defect or normal appearing mucosa.

Surgery used to be the treatment of choice, with significant perioperative mortality of 23%-79%. Endoscopic treatment of Dieulafoy lesion evolved in the late 1980s and has virtually obviated the need for surgery. All modalities used for control of ulcer bleed have been successfully applied for Dieulafoy lesion as well; the overall risk of rebleed is 15%.1

Since 1991 there have been reports of band ligation for nonvariceal bleed.3 On literature search, we found 23 earlier reports totaling 94 cases treated by band ligation. The largest series included 23 cases, of which one jejunal lesion rebled, requiring surgery.4 Rebleed was reported in two other instances, one was controlled with injection and a gastric lesion required surgery.5 The overall success rate was thus 97%, which is consistent with our experience.

Mumtaz et al6 found banding to be successful in initial hemostasis in all 14 cases with Dieulafoy lesion with no rebleed, whereas 4 of 9 patients who underwent adrenaline injection plus heater probe rebled; the mean hospital stay for the latter group was 6.7 days compared to 1.8 days for the banding group. In another series of 58 cases with upper GI bleed, hemostasis was achieved in all 27 patients with banding, versus 83.9% of those who received bipolar electrocoagulation; banding took only 17 min versus 27 min for bipolar coagulation.7 Chung et al8 compared mechanical methods of hemostasis (Endoclip + 3 banding) with injection in 24 patients with Dieulafoy lesion, and found that mechanical methods required less number of sessions (1.17 vs 1.67), with greater initial hemostasis (91.7% vs 75%), and lower rebleed rate (8.3% vs 33.3%); none in the mechanical group required surgery compared to 17% in the injection group.

Endoscopic band ligation has several advantages. It is easy to learn, is less expensive, and is devoid of adverse effects unlike electrocoagulation and sclerotherapy, both of which can cause perforation. Besides its use as primary therapy, it has also been useful as rescue therapy when injection and electrocoagulation have failed.3

When endoscopy is normal, endosonography is helpful to confirm the site of lesion and target treatment.9 A large-caliber vessel running in the submucosa is characteristic of Dieulafoy lesion.

In conclusion, endoscopic band ligation was found to be effective in preventing rebleed from Dieulafoy lesions. Though no large studies are available, collective experience in world literature thus far suggests that banding is safe, easy to use, and effective for endotherapy of Dieulafoy lesions.

References


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