

## A MANEUVER FOR DETECTION OF THE SITE OF GASTRIC HEMORRHAGE

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AN ALL TOO COMMON experience in the emergency surgical treatment of upper gastrointestinal hemorrhage is failure to detect the origin of bleeding at the time of operation. During the last 10 years there has been a marked change in attitude toward therapy in this situation. Formerly, many surgeons advised and practiced blind subtotal gastrectomy with the expectation that many of the occult lesions would be located in the specimen. More recently, the advisability of searching for the lesion has been stressed, and various forms of gastrotomy have been employed.

This report is presented in order to describe a technical maneuver which has been found useful for the detection of gastric lesions after other methods, including direct visualization with gastrotomy, have been unsuccessful. The procedure to be described consists of eversion of the stomach, which permits flattening of the rugal folds as well as detailed inspection of large areas of gastric mucosa.

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### TECHNIQUE

After the abdomen is opened, the external surfaces of the stomach, duodenum, and jejunum are inspected for evidence of a lesion. Particular attention is paid to the gastroduodenal area, which is usually exposed by a gastroduodenotomy. If the site of bleeding is not found in the duodenum or distal end of the stomach, the greater curvature is then freed by ligation and division of the gastrocolic omentum up to the esophagus (Fig. 1).

A high vertical gastrotomy is then performed, with careful attention to hemostasis. The incision need not be long. Less than 2 inches is frequently sufficient. Various areas of the stomach can then be everted through the gastrotomy. A sponge-stick is the most useful instrument for this maneuver. If firm pressure is applied to the everted stomach and the location of the sponge-stick is changed, broad areas of gastric mucosa can be examined with the rugal folds flattened (Fig. 2). Depending upon the degree of mobilization of the greater curvature, virtually all of the gastric mucosa can be brought out through the gastrotomy in this manner. When the lesion is identified and an accurate diagnosis made, treat-

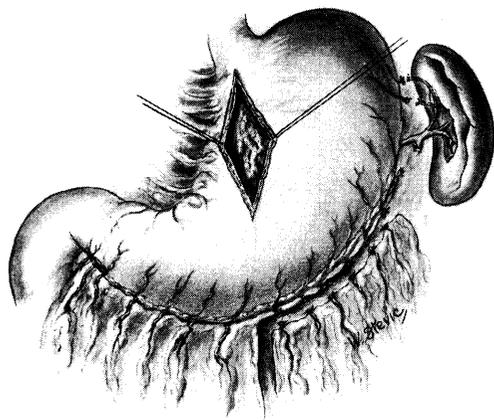


FIG. 1.

FIG. 1. Preparation for gastric eversion by gastrotomy incision after freeing of greater curvature.

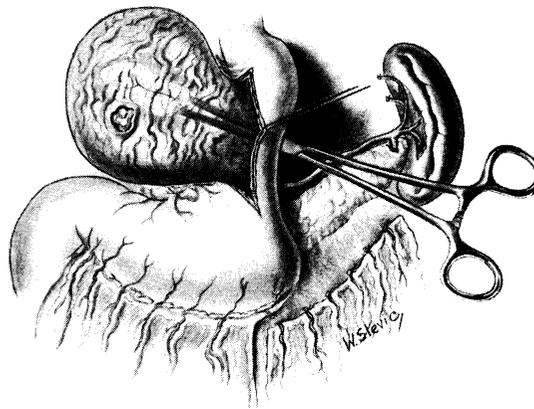


FIG. 2.

FIG. 2. Eversion of gastric mucosa.

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ment is instituted according to the requirements of the individual situation. With benign disease, any one of a number of surgical procedures can be used, all having in common the need for local control of the bleeding site.

After the surgeon is convinced that the bleeding is not from the pyloroduodenal region, time and trouble can often be saved by immediately resorting to the maneuver described. By first mobilizing the greater curvature, it is possible to get accurate visualization of the upper portion of the stomach through a relatively small gastrotomy.

One of the major advantages of the method is that the gastric mucosa can be viewed as it is stretched. It has been a common experience upon flattening the gastric rugae to find small superficial ulcers, often multiple, which were hidden and undetectable when the gastric mucosa was in its normal state. Telangiectatic areas may be seen which were not at all apparent by any other means. Gastric eversion permits suture or ex-

cision of otherwise inaccessible lesions especially of the cardia, by delivering the lesion into the center of the operative field.

#### SUMMARY

Accurate detection of occult gastric lesions can be accomplished by eversion of the gastric wall provided that adequate mobilization of the greater curvature is first carried out. The stomach can be virtually turned inside out. By flattening the rugal folds over the everting instrument, hidden lesions in the depths of the convolutions can be detected and treated.

This technique can be applied as a primary procedure when upper gastric lesions are suspected, or as a secondary maneuver in instances in which previous conventional long gastrotomy failed to reveal the presence of a lesion. By proper utilization of this technique, the mucosa of the entire upper two-thirds of the stomach can be visualized under ideal conditions.