OUR STYLIZED PROCEDURE WITH RIGHT SIDE APPROACH IN LAPAROSCOPIC NISSEN FUNDOPLICATION FOR GERD PATIENTS

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INTRODUCTION

Laparoscopic techniques in anti-reflux surgery for GERD patients are still considered complicated by many surgeons. We have established our simple anti-reflux surgery procedure with less bleeding and less operative time.

SURGICAL PROCEDURE

Setting

Our 5-trocar setting with patients in the reverse Trendelenburg's position is as follows: 12 mm trocar just below the navel (A), 5 mm trocar at the upper right abdomen for pulling up lateral segment of the liver, 5 mm trocar at the upper right abdomen, 12 mm trocar at the upper left abdomen (B), 5 mm trocar at the middle left abdomen (C).

Step 1

Under laparoscopic view, left part of the lesser omentum was cut with preserving the hepatic branch of vagus nerve. The right crus of the diaphragma has been dissected free from the soft tissue around the stomach and abdominal esophagus. In this step the fascia of the right crus should be preserved and the soft tissue should not been damaged to avoid unnecessary bleeding. After cutting the peritoneum just inside the right crus, the soft tissue was dissected bluntly to left side. Then the inside margin of the left crus of the diaphragma was recognized from the right side. In this part of the procedure, laparoscope uses trocar (A), the assistant uses trocar (B) to pull the stomach to left lower side and the operator's right hand uses trocar (C).

Step 2

The branches of left gastroepiploic vessels and the short gastric vessels were divided with ultrasonic coagulation and dissection device. The left crus of the diaphragma was exposed and the window at the posterior side of the abdominal esophagus was widely opened. In this part of the procedure, laparoscope uses trocar (A) at the beginning of dividing left gastroepiploic vessels, trocar (B) when dividing short gastric vessels.

Step 3

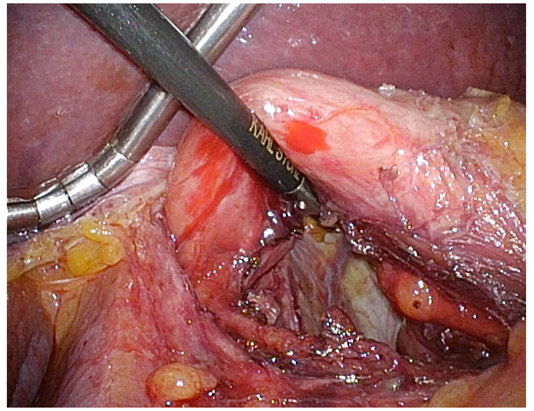
The right and left crus are sutured with interrupted stitches to reduce the hiatus. From the right side, the fundus of the stomach is grasped through the widely opened window behind the abdominal esophagus. Then the fundus of the stomach is pulled to obtain a 360 degree "stomach-wrap" around the abdominal esophagus (fundoplication). Using 2-0 non-absorbable braided suture, stitches are placed between both gastric flaps.

RESULTS

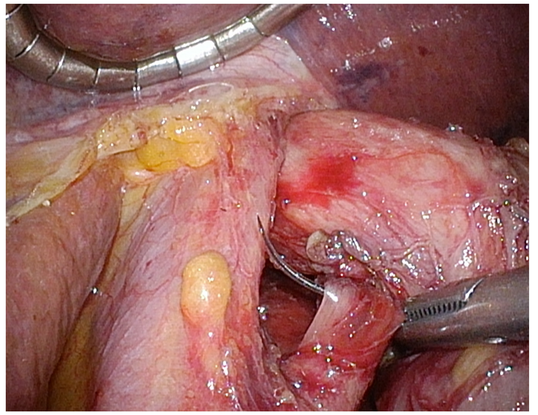
We have performed this procedure in 105 cases. A favorable outcome was assessed by radiograms performed on 4-5 postoperative day. The patients are mostly satisfied with the postoperative results.

A: 5 mm port for operator's lt. hand
B: 5 mm port, Snake retractor and scope holder to lift lateral segment of the liver
C: 12 mm port
D: 5 mm port
E: 12 mm port

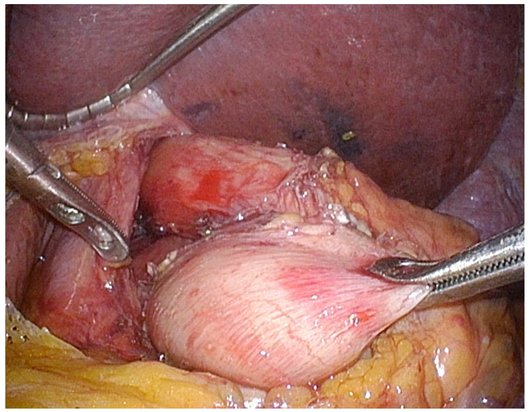




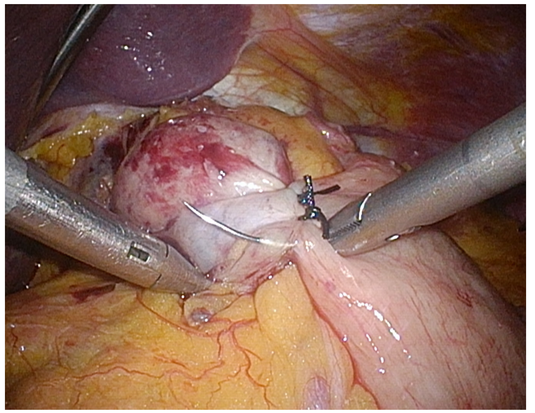
The window at the posterior side of the abdominal esophagus was widely opened.



Stitches are placed between both cruras behind the esophagus.



The stomach is grasped from behind the esophagus, without manipulating it to avoid injury.



The fornix of the stomach is pulled to obtain a 360 degree "stomach-wrap".

SAGES 2021 Annual Meeting COI Disclosure
Tatsushi Suwa

The author have no financial conflicts of interest to disclose concerning the presentation.

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