
A Stent-Guided Sphincterotomy in Patients with a Difficult Periapillary Diverticulum or with a Billroth-II Gastrectomy

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Background/Aims: Patients with a congenitally or surgically altered anatomy such as a large diverticulum in which an ampullary orifice exists or a Billroth-II gastrectomy, have an increased complication rate after endoscopic sphincterotomy (EST) compared to normal anatomies. An experience involving a stent-guided sphincterotomy using an endoprosthesis is herein reported. **Methods:** 10 patients with a Billroth-II gastrectomy and 9 patients with a large diverticulum received a stent-guided EST. In the diverticula cases, all the ampullary orifices were located either inside the diverticulum or in an unusual position. All patients had common bile duct stones and symptoms of cholangitis. After a 0.035 inch guide wire was inserted through the side-viewing duodenoscope, a 10 Fr. endoprosthesis (MTW, Germany) was inserted and a needle-knife sphincterotome was introduced. In patients with a Billroth-II anatomy, the incision was made from the papillary orifice of the 12 o'clock position toward 6 o'clock. In patients with periampullary diverticula, the incision was made with sweeps of the needle-knife in a 6 to 12 o'clock direction. The cautery current was applied to the mucosa along the stent and the stent was retrieved by a polypectomy snare through the biopsy channel without removal of an endoscope. **Results:** Among the 19 patients, the guide wire and stent insertion were possible in all except one patient due to the inability of selective cannulation. An EST was performed in all patients after stent insertion. There were no serious complications during and after the stent-guided EST except for two minor bleedings which were treated with a coagulation current using the needle-knife. Consequently, complete endoscopic stone removal was achieved in all patients including three patients in whom a mechanical lithotripter was needed. **Conclusions:** In stent-guided EST, the stent not only guides the adequate direction of the incision but also allows a controlled incision under a favorable visual field. Therefore, blind cutting and exploration during EST can be avoided and successful EST is possible even in difficult situations such as that created by an altered anatomy. (**Korean J Gastrointest Endosc 2000;20:26 – 32**)

Key Words: Stent-guided sphincterotomy, Billroth-II gastrectomy, Periapillary diverticulum

Table 1. Stent-Guided Needle-knife Sphincterotomy in Patients with Billroth-II Gastrectomy or with Periapillary Diverticulum: Patients and Results

Patients	
Number	19
Sex (male/female)	13/6
Age (mean, range)	67 (52-88)
Results	
Procedure attempted	19
Successful procedure	18
Complications	
Mild bleeding	2
Additional procedures (stone removal)	
Basket and/or balloon	15
Mechanical lithotripter	3

tomy; EST) (Endoscopic sphincterotomy; EST) 85 95% .12 EST

Billroth-II EST 가 .35

Billroth-II 가 EST 6 13 , 가 6 . 19 가 52 88 67.1 ± 10.5 (Table 1). 2. 80% 가 EST .610

EST 가 EST 가 EST Billroth-II 가 .11-13 가

EST 0.035 inch 가 , 3.0 mm cutting tip Olympus TJF-200 EST 5 Fr. 0.035 inch 1.8 mm pusher 10 Fr.

1. 1994 3 1999 3 5 1 : 1 2 3 mm (Fig. 1). 10 9 Billroth-II 가 가 (Fig. 2). EST 가

Figure 1. The technique of stent-guided sphincterotomy in patients with Billroth-II gastrectomy. (A) The papillary orifice opening in six o'clock direction in patients with Billroth-II anatomy. (B) Insertion of diagnostic cannula. (C) A endoprosthesis insertion into the common biliary duct. (D) Completed sphincterotomy. The intrapapillary part of stent becomes exposed.

1 2 mm 가 , 가 , . EST가 18 EST가 가 2 (minor bleeding) EST 15 3 18 17 1 18 19 18 가 1 Billroth-II (Table 1). 1 2

Figure 2. The technique of stent-guided sphincterotomy in patients with difficult periampullary diverticulum. **(A)** An ampullary orifice located inside the large diverticulum. **(B)** A ERBD stent insertion into the common blic duct. **(C)** After multiple short cutting of papillary orifice with needle-knife sphincterotome, the intrapapillary part of stent becomes exposed. **(D)** Completed sphincterotomy.

EST 1974

16

30-30

.23

Osnes

Leach 17

Sohma

1415 Billroth-EST

II 가 EST

. Cremer 18 Sohendra

Rosseland 16

.1620 Billroth-

II 가 ,

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 , EST가
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 Ogelladore .4512
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 Jerome 21 가 EST 가
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 Jerome 21
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 EST가 Jerome 21 31 12
 Billroth-II 가
 blind fistulotomy EST 가
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 3 mm

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