

Our experience of D-LECS for duodenal tumors including early cancer

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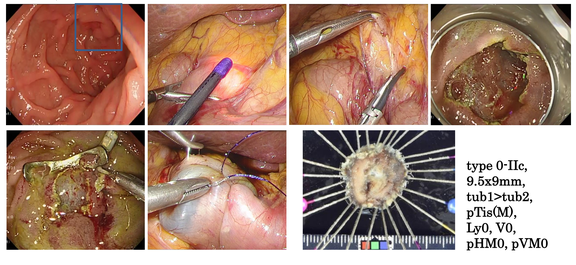
【Background/Purpose】Pancreaticoduodenectomy for duodenal intramucosal cancer and duodenal gastrointestinal stromal tumor (GIST) is considered to be a hyperinvasive treatment and can often be cured by local resection. However, endoscopic submucosal dissection (ESD) in the duodenum was reported to be associated with a higher risk of complications. Besides advancements in the ESD and laparoscopic techniques, laparoscopic and endoscopic cooperative surgery (LECS) has been developed. And a unique LECS technique for duodenal tumors (D-LECS) was developed to avoid perforation during and after ESD. In recent years, the reports of D-LECS for duodenal lesions has increased. This procedure was approved for use by the Japanese Ministry of Health, Labour and Welfare in 2020. And in 2021, treatment algorithm based on the Japan duodenal cancer clinical practice guidelines were introduced. At our hospital, D-LECS is performed for duodenal submucosal tumors and duodenal epithelial tumors that are difficult to safely resect and sew with an endoscope alone.

【Result】We have experienced 12 cases of D-LECS so far. There were 8 cases of duodenal epithelial tumor (6 cases of cancer), 3 cases of duodenal GIST and a case of NET G1. Laparoscopic serosal muscular layer suture (D-LECS with ESD) in 4 cases, duodenal full-thickness resection (D-LECS with FTR) in 6 cases and laparoscopic lower duodenal serosal muscular layer resection in 2 cases were performed. None of them required a lap arotomy transition and no complications were observed. And none of them has been recurred.

【Conclusion】D-LECS requires advanced skills for both endoscopists and surgeons. However, it is thought that cooperation will enhance the safety and certainty of each other's procedures, enabling minimally invasive and safe surgery for patients.

Case : ESD + Laparoscopic serous muscular suturing (D-LECS with ESD)

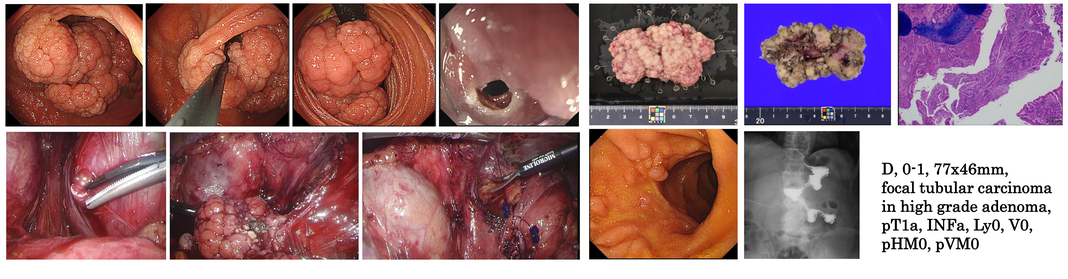
【74 year-old male】



type 0-IIc,
9.5x9mm,
tub1>tub2,
pTis(M),
Ly0, V0,
pHM0, pVM0

Case : Laparoscopic duodenal full-thickness resection (D-LECS with FTR)

【72 year-old male】P.H.: distal gastrectomy + B-I reconstruction



D, 0-1, 77x46mm,
focal tubular carcinoma
in high grade adenoma,
pT1a, INFa, Ly0, V0,
pHM0, pVM0

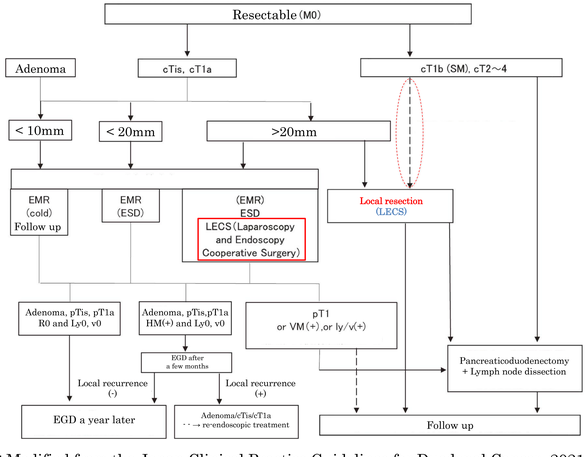
Our experience of D-LECS for duodenal tumor

Case	Location	Tumor size	Histology	Operation	Operation time	Postoperative course
49 F	Descending portion	40 x 28	tub2>tub1, SM, Ly2, V0	D-LECS with ESD	5h47m	SSPPD was performed. No tumor on the specimen. 83 months after surgery, no recurrence
72 M	Descending portion	20 x 15 x 10	GIST, low risk	Laparoscopic partial duodenal resection (mucosal sparing)	3h27m	65 months, no recurrence
61 F	Descending portion	22 x 18 x 14	GIST, low risk	D-LECS with FTR	2h23m	54 months, no recurrence
74 M	Descending portion	9.5 x 9	tub1>tub2, TisM), Ly0, V0	D-LECS with ESD	2h19m	43 months, no recurrence
69 F	Descending portion	37 x 24	Adenoma(high grade atypia)	D-LECS with ESD	7h36m	42 months, no recurrence
44 F	Descending portion	65 x 55	Adenoma(high grade atypia)	D-LECS with FTR	5h03m	37 months, no recurrence
63 M	Bulb	16 x 10	NET G1	D-LECS with ESD	3h19m	34 month, no recurrence
74 M	Descending portion	12 x 10	pap-tub1, T1b(SM), Ly0, V0, vVM1 →No residual tumor	Post ESD, D-LECS with FTR	3h41m	30 months, no recurrence
71 M	Horizontal portion	12 x 10 x 6	GIST, low risk	Laparoscopic partial duodenal resection (mucosal sparing)	2h20m	28 months, no recurrence
66 M	Descending – Horizontal portion	15 x 13	tub1>tub2, T1b1(SM), Ly0, V0	D-LECS with FTR	3h04m	27 months, no recurrence
72 M	Descending portion	77 x 46	focal tubular carcinoma in high grade adenoma, pT1a, INFa, Ly0, V0	D-LECS with FTR	4h44m	26 months, no recurrence
77 F	Bulb	12 x 11	type 0-I+IIc, tub2>tub1>por1, pT1b2(SM), pULO, Ly0, V0, pHM0, pVM0	D-LECS with FTR	3h31m	19 months, no recurrence

Our experience of D-LECS for duodenal adenocarcinoma

Case	Location	Tumor size (mm)	Histopathology	Operation	Operation time	Postoperative course
49 F	Descending portion	40x28	tub2>tub1, SM, Ly2, V0	D-LECS with ESD	5h47m	SSPPD was performed. No tumor on the specimen. 83 months, no recurrence
74 M	Descending portion	9.5x9	tub1>tub2, Tis(M), Ly0, V0	D-LECS with ESD	2h19m	43 months, no recurrence
74 M	Descending portion	12x10	pap-tub1, SM, Ly0, V0, VM1	Post ESD, D-LECS with FTR	3h41m	No tumor on the specimen. 30 months, no recurrence
66 M	Descending portion	15x13	tub1>tub2, T1b1(200μ SM), Ly0, V0	D-LECS with FTR	3h04m	27 months, no recurrence
72 M	Descending portion	77x46	focal tubular carcinoma in high grade adenoma, pT1a, INFa, Ly0, V0	D-LECS with FTR	4h44m	26 months, no recurrence
77 F	Bulb	12x11	type 0-I+IIc, tub2>tub1>por1, pT1b2(SM), pULO, Ly0, V0, pHM0, pVM0	D-LECS with FTR	3h31m	No tumor on the specimen. 19 months, no recurrence

Duodenal tumor treatment algorithm



* Modified from the Japan Clinical Practice Guidelines for Duodenal Cancer 2021

*I have no financial disclosure.