Laparoscopic Distal Gastrectomy for Gastric Cancer in Elderly Patients Over 85 Years of Age

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Introduction: In Japan, the prevalence of gastric cancer is decreasing, but the elderly population is increasing due to the extension of lifespan. Therefore, the chances of meeting elderly patients with gastric cancer have not decreased. Nearly 30 years have passed since laparoscopic surgery was started, and it has become the standard procedure in various areas. Laparoscopic surgery is often performed in the treatment of gastric cancer. However, few studies about laparoscopic distal gastrectomy (LDG) for gastric cancer in more elderly patients especially over 85 years of age were reported. The aim of this study was to analyze LDG for gastric cancer in elderly patients over 85 years of age in our institute.

Methods and procedures: We retrospectively analyzed 9 consecutive patients who underwent LDG for gastric cancer in our institute between January 2012 and December 2018. Clinicopathological characteristics and perioperative outcomes were analyzed.

Results:

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9	average
Age	85	91	86	88	86	89	89	86	90	88y.o.
Sex	male	male	male	female	male	male	female	female	female	
Chief Complain	Medical examination	Dysphagia	Epigastric pain	Anorexia	Anemia	Anemia	Anorexia	Dysphagia	Dyspnea	
Past history	DM, HT, CI, PM+, Dem	HT, CHF	TB, S/C Ca	HT, Appe	HT, CHF, af, CI, PM+	HT, COPD, Dem, Appe	HT, rtMMK, Myoma	HT, Asthma	HT, CKD	
Number of medications	11	6	3	5	4	5	8	3	7	5.8
Anticoagulant drugs	-	warfarin	-	-	biaspyrin	-	-	-	-	-
BMI (kg/m2)	22.8	22.5	17.9	20.9	24	17.5	14.5	19.1	19.6	19.9
%VC (%)	88	81.4	65		76.1	60.7	63.7	89.6	61	73.2
FEV1.0% (%)	76.4	83.9	84.5		72.6	65.2	57.1	72.2	80.8	74.1
Respiratory function	normal	normal	restrictive		restrictive	mixed	mixed	normal	restrictive	
UCG EF (%)	61	72	71		54	71	80	56	67	66.6
Valvular disease	3	2	1	1	2	2	2	1	1	1.7
wall motion	normal	normal	normal	normal	normal	normal	normal	normal	normal	
Hb (g/dl)	12.5	10.7	13.5	11.7	11	9.7	9.0	14.8	10.3	11.5
Alb (g/dl)	3.8	3.9	3.5	3.5	4.3	3.6	2.9	4.4	2.8	3.6
Stage	I	IV	I	I	I	I	IIa	I	I	
Preoperative hospital day	3	26	21	17	8	36	26	21	17	8
		Preoperative examination	Preoperative examination	Preoperative examination		During treatment of pyelonephritis	Preoperative examination		During treatment of DVT	

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9	average
Surgical procedure	LDG	LDG	LDG	LDG LC	LDG	LDG	LDG	LDG LC	LDG	
Lymph node dissection	D2	D0	D2	D1+	D1+	D1+	D1	D1	D1	
Operative time (min)	291	186	370	297	234	275	111	140	191	232
Blood loss (ml)	50	15	250	200	20	20	5	5	5	63
Laparotomy transition	-	-	-	-	-	-	-	-	-	
Postoperative complications		Delirium Anastomotic stenosis		Fullness	Delirium	Delirium	Transfusion Anorexia UTI	Delirium, Convulsions	HF	
Postoperative hospital day	11	34	13	49	13	17	In hospital	97	22	32
Outcome	92y.o. alive	93y.o. 12m after surgery died	92y.o. alive	94y.o. alive	90y.o 42m after surgery died	90y.o. 6m after surgery died	91y.o. alive	88y.o. alive	91y.o. alive	
cause of death		Gastric ca			CI	HF				
Postoperative pathological diagnosis	tub1=2	tub2=por2	tub2>por2	por2=sig	por2=sig>tub2	tub1	por	por-sig>tub1=tub2	tub1	
t	1a	4a	4a	1a	1b	1a	2	1a	1a	
n	0	0	3a	0	0	0	0	0	0	
stage	Ia	Va	IIIc	1a	1b	Ia	Ib	Ia	Ia	

Conclusion: LDG can be performed safely for gastric cancer patients over 85 years of age because of no severe postoperative complications and hospital death.

Abbreviation: DM: Diabetes mellitus, TB: Tuberculosis, Myoma: Uterine fibroid, HT: hypertension, S/C Ca: Sigmoid colon cancer, Asthma: Bronchial asthma, CI: Cerebral infarction, Appe: Appendectomy, PM+: Pacemaker installed, af: Atrial fibrillation, DVT: Deep vein thrombosis, Dem; Dementia, rtMMK: Right breast cancer, UTI: Urinary-tract infection, CHF: Chronic heart failure, HF: Heart failure, COPD: Chronic obstructive pulmonary disease