

Proximal Gastrectomy with Gastric Tube Reconstruction or Jejunal Interposition Reconstruction in the Upper Third Gastric Cancer: Which is Better for the Surgical Short-Term Outcomes.

Zhiguo Li

Harbin Medical University Third Clinical College: Tumor Hospital of Harbin Medical University

Yan Ma

Harbin Medical University Third Clinical College: Tumor Hospital of Harbin Medical University

Guiting Liu

Harbin Medical University Third Clinical College: Tumor Hospital of Harbin Medical University

Ming Fang

Harbin Medical University Third Clinical College: Tumor Hospital of Harbin Medical University

YingWei Xue (✉ xueyingwei@hrbmu.edu.cn)

Harbin Medical University Third Hospital: Tumor Hospital of Harbin Medical University

Research article

Keywords: jejunal interposition (JI), gastric tube (GT), Gastrointestinal Symptom Rating Scale (GSRS), Los Angeles (LA)

Posted Date: February 9th, 2021

DOI: <https://doi.org/10.21203/rs.3.rs-194845/v1>

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Version of Record: A version of this preprint was published at BMC Surgery on July 5th, 2021. See the published version at <https://doi.org/10.1186/s12893-021-01239-7>.

Abstract

Objective: Proximal gastrectomy was acted as a function-preserving operation for upper third gastric cancer. The aim of this study is to compare the surgical short-term outcomes between proximal gastrectomy with gastric tube reconstruction and proximal gastrectomy with Jejunal interposition reconstruction in the upper third gastric cancer.

Methods: A retrospective review of 301 patients who underwent proximal gastrectomy with jejunal interposition (JI) or gastric tube (GT) at the Harbin Medical University Cancer Hospital between June 2007 and December 2016 was performed. The Gastrointestinal Symptom Rating Scale (GSRS) and Visick grade were used to evaluate the post-gastrectomy syndromes. The gastrointestinal fiberoscopy was used to evaluate the prevalence and severity of reflux esophagitis by Los Angeles (LA) classification system.

Results: The JI group had a longer operation time than GT group (220 ± 52 vs 182 ± 50 min), whereas there was no significant difference in blood loss. Compared to the GT group, the Visick grade and GSRS score were significantly higher than that of the JI group. The reflux esophagitis of GT group was significantly higher than that of the JI group.

Conclusion: Proximal gastrectomy is well tolerated, with excellent short-outcomes in patients with upper third gastric cancer. Compared with GT construction, JI construction has clear functional advantages and may provide better quality of life for patients with upper third gastric cancer.

Full Text

Due to technical limitations, full-text HTML conversion of this manuscript could not be completed. However, the latest manuscript can be downloaded and [accessed as a PDF](#).

Tables

Table 1 Clinicopathological characteristics of patients who underwent JI or GT reconstruction

Parameters	Total	Jl group	GT group	P value
Cases (n)	301	150	151	
Age (years)				0.032
<60	136	77	59	
≥60	165	73	92	
Gender				0.791
Male	243	122	121	
Female	58	28	30	
Height (cm)	170±7	171±6	168±7	0.001**
Weight (Kg)	68±11	67±10	68±12	0.433
BMI	23.66±3.75	23.28±3.95	24.04±3.50	0.078
Hospital stay (day)	23±3	21±1	25±5	0.001**
Operating time (min)	201±54	220±52	182±50	0.001**
Blood loss (ml)	162±95	169±84	155±104	0.200
Tumor size (cm)				0.778
<5	179	88	91	
≥5	122	62	60	
ABO blood type				0.745
A	78	44	34	
B	105	51	54	
O	91	42	49	
AB	27	13	14	
Pathological TNM classification				
T stage				0.001**
T1	34	14	20	
T2	46	21	25	
T3	96	28	68	
T4	125	87	38	
N stage				0.05*

N0	141	69	72	
N1	64	26	38	
N2	57	38	19	
N3	39	17	22	
TNM stage				0.093
I	65	27	38	
II	119	56	63	
III	117	67	50	
Lauren Classification				0.144
Diffuse type	18	5	13	
Intestinal type	208	108	100	
Mixed type	75	37	38	
Differentiation				0.05*
poorly differentiated	126	73	53	
moderately differentiated	143	65	78	
well differentiated	32	12	20	
Vessel invasion				0.867
positive	166	82	84	
negative	135	68	67	
Nerve invasion				0.001*
positive	204	115	89	
negative	97	35	62	
Pathology				0.001**
adenocarcinoma	211	119	92	
mucinous carcinoma	62	15	47	
signet ring cell carcinoma	18	12	6	
others	10	4	6	
Total lymph nodes				0.001**
≥20	168	109	59	

≥20	133	41	92	
Positive lymph nodes				∞0.001**
∞3	154	95	59	
≥3	147	55	92	

*: $P < 0.05$; **: $P < 0.001$

Table 2 Postoperative functional outcomes

Parameters	Total	Jl group	GT group	<i>P</i> value
Cases (n)	301	150	151	
Visick grade				<0.05*
V1	201	112	89	
V2	71	29	42	
V3	19	7	12	
V4	10	2	8	
GSRs score	26.89±5.06	25.58±4.56	28.48±5.78	∞0.001**

*: $P < 0.05$; **: $P < 0.001$

Table 3 Comparison of preoperative and postoperative nutritional outcomes between groups

Parameters	Total	Jl group	GT group	P value
Cases (n)	301	150	151	
Preoperative				
Total protein (g/l)	68.62±7.92	68.23±6.37	69.00±9.20	0.399
Albumin (g/l)	42.44±4.57	43.63±4.65	41.25±4.18	∞0.001**
Globulin (g/l)	26.04±5.02	24.62±5.38	27.44±4.20	∞0.001**
Prealbumin (g/l)	254.68±66.74	252.91±67.49	256.44±66.17	0.647
White blood cell (W)	6.62±2.07	6.38±2.05	6.86±2.07	0.044*
Neutrophils (N)	3.89±1.61	3.67±1.36	4.12±1.80	0.015*
Lymphocyte (L)	2.01±0.69	1.98±0.66	2.04±0.72	0.452
Monocyte (M)	0.49±0.20	0.45±0.20	0.52±0.20	0.003*
Hemoglobin (Hb)	133.01±23.44	132.81±21.71	133.22±25.11	0.880
Erythrocyte (E)	4.41±0.59	4.39±0.55	4.44±0.63	0.464
Platelet (P)	239.54±75.45	250.79±82.61	228.36±65.98	0.010*
Postoperative				
Total protein (g/l)	54.44±5.72	53.64±6.13	55.23±5.19	0.016
Albumin (g/l)	32.57±4.08	33.11±4.55	32.02±3.48	0.020
Globulin (g/l)	21.79±4.56	20.53±5.22	23.04±3.38	∞0.001**
Prealbumin (g/l)	172.06±44.29	170.63±44.76	173.49±43.92	0.576
White blood cell (W)	11.75±3.65	11.61±3.87	11.90±3.42	0.491
Neutrophils (N)	8.07±3.82	5.87±3.03	10.26±3.23	∞0.001**
Lymphocyte (L)	0.95±0.45	1.03±0.50	0.87±0.37	0.002**
Monocyte (M)	0.67±0.28	0.65±0.28	0.70±0.28	0.122
Hemoglobin (Hb)	122.47±16.42	122.32±17.08	122.63±15.79	0.870
Erythrocyte (E)	4.07±0.51	4.07±0.53	4.07±0.50	0.866
Platelet (P)	203.61±67.51	212.42±75.00	194.80±58.00	0.023*

*: $P < 0.05$; **: $P < 0.001$

Table 4 Endoscopic findings of the JI and GT group

Parameters	Total	JI group	GT group	<i>P</i> value
Cases (n)	301	150	151	
Los Angeles classification		31	48	0.028
A		20	30	
B		8	13	
C		3	5	
D		0	0	

*: $P < 0.05$;