

## Peer Review File

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### Reviewer A

The authors evaluated the clinical efficacy and 22 postoperative survival differences between laparoscopic and open gastrectomy in 23 patients with Siewert type II/III adenocarcinoma of esophagogastric junction by the meta-analysis. A total of 2959 patients from 12 studies were included in the final meta-analysis. No significant difference was observed in the values of postoperative hospital stay, recovery time of gastrointestinal function, and incidence of postoperative complications in the two groups. Compared with OG, LG is, however, associated with less blood loss, fewer postoperative complications, more lymph nodes dissected, and longer operation time, while showing significant advantages in OS and DFS. This study includes several new findings. However, I have several criticisms as follow.

**Comment 1.** "With regard to the number of lymph nodes dissected, is it possible to find out in which area there was a difference in the number of lymph nodes? I understand that there were differences due to different surgical techniques, but in which lymph nodes was the difference in the number of lymph nodes dissected? If possible, it would be more useful to indicate not only the difference between the thorax and abdomen, but also the lymph nodes for junctional cancer, lymph nodes around the esophagus, lymph nodes around the diaphragm, and lymph nodes around the short gastric artery.

**Reply 1:** We thank you very much for this extremely valuable comment, and our team appreciates your opinion. Our team specifically discussed this in detail, and concluded that different tumor sites, different pathological types, different stages, and different surgical techniques must have different lymph node dissection ranges, which might also be related to the surgical habits of the surgical team. Since our study data came from published research results, and they did not reflect detailed data such as the area of lymph nodes dissected and lymph node dissection scope as you mentioned, we only carried out comparative analysis on the number of lymph nodes dissected (Fig2c). To make the results less biased, we performed an independent analysis of total gastrectomy patients and proximal gastrectomy patients and found no statistical difference between the open and endoscopic groups (Fig2d and FigS1a). In the study we included, only Sugita's cohort recorded mediastinal lymph node dissection. And they found that LG versus OG increased the number of lower mediastinal LNs detected for Siewert type II AEG (1 vs. 0,  $P=0.002$ ). However, data from only one cohort cannot be used for further meta-analysis, which is also one of the limitations of our study. Our team believes that it is necessary to conduct a prospective comparative study of laparoscopic and open surgery with detailed registration of lymph node dissected scope and lymph node group. This is also the focus of our team's follow-up research, and we look forward to your continued attention. On this point, our team made a detailed supplement in the discussion section of the manuscript.

**Changes in the text:** We have added to this in the discussion section. "Different tumor

sites, different pathological types, different stages, and different surgical techniques must have different lymph node dissection ranges, which may also be related to the surgical habits of the surgical team. Since our research data came from published research results, and they did not reflect detailed data such as the a of lymph node and lymph node dissection scope, we only carried out comparative analysis on the number of lymph nodes dissected (Fig 2c). To make the results less biased, we performed an independent analysis of total gastrectomy patients and proximal gastrectomy patients and found no statistical difference between the open and endoscopic group (Fig2d and FigS1a). In the study we included, only Sugita's cohort in Japan demonstrated that LG versus OG increased the number of lower mediastinal LNs detected for Siewert type II AEG (1 vs. 0, P=0.002). However, data from only one cohort cannot be used for further meta-analysis, which is also one of the limitations of this study.”

**Comment 2.** There are some inaccuracies in the description that need correction: (1) The position of the "OG" and "LG" abbreviations in the abstract should be at the beginning. (2) It would be appropriate to align items (1) to (9) in Table 2 with items ① to ⑨ in the accompanying explanation. (3) In the explanation for Figure S2, "Anastomotic site bleeding" should be labeled as "c" instead of "b."

**Reply 2:** Thank you for your meticulous review of our manuscript. Your meticulous and pertinent comments have greatly helped to make our manuscript readable and rigorous. We have revised the corresponding part, and thank you again for your review. Changes in the text: We have made corresponding revisions in the abstract, table and supplementary materials of the manuscript, as follows:

We performed this meta-analysis to investigate the clinical efficacy and postoperative survival differences between laparoscopic gastrectomy (LG) and open gastrectomy (OG) in patients with Siewert type II/III adenocarcinoma of esophagogastric junction.

(Abstract)

Compared with the OG group, the LG group patients had an increased number of dissected lymph nodes. (Abstract)

Study	Selection				Comparability		Outcomes			Quality scores
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	

**(Table2)**

c: Anastomotic site bleeding (FigS2)

**Reviewer B**

1. Please unify the databases between your abstract and the main text.

89 Literature search

90 PubMed, Embase, Web of Science, Cochrane Central Register of Controlled Trials, and Wanfang Database were

91 searched from database inception to April 2022. The searches were performed based on the PICOS (population,

**Reply:** Thank you very much for your suggestion, this was an oversight in the process of writing the manuscript, and we have made corresponding changes in the abstract section.

**Changes in the text:** We searched PubMed, Embase, Web of Science, Cochrane Central Register of Controlled Trials, and Wanfang Database through April 2022.

## 2. Tables

- You mixed up Tables 1-2. Table 1 should be Table 2 and Table 2 should be Table 1. Please revise.
- Please indicate the full name of “PG/TG”, “LN” in Table 2 footnote.
- Please add units for Age, BMI, and Tumor size in Table 2.
- Please provide the explanation of \* in Table 1.
- The publication year is 2019 in the reference 19.

Wang	Chin	2009-	LG	32	7	21/11
2018	a	2014			61.9±6.	
			OG	43	0	23/20

**Reply:** Thank you very much for your careful inspection. We are very sorry for these errors, and we have made modifications in the corresponding part.

**Changes in the text:**

Table1 Quality assessment scoring of included studies, according to NOS criterion

Study	Selection			Comparability			Outcomes			Quality scores
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	
Hong 2013	*	*	*	*	*		*			6
Huang 2016	*	*	*	*	*	*	*	*		8
Shi 2018	*	*	*	*	*	*	*	*		8
Zhang 2018	*	*	*	*	*		*	*		7
Jia 2018	*	*	*	*	*		*			6
Wang 2018	*	*	*	*	*		*			6
Zhao 2018	*	*	*	*	*	*	*	*		8
Lee 2019	*	*	*	*	*	*	*	*		8
Sugita 2020	*	*	*	*	*	*	*	*		8
Zhang 2021	*	*	*	*	*		*			6
Lin 2022	*	*	*	*	*	*	*	*	*	9
Song 2022	*	*	*	*	*	*	*	*	*	9

① Representativeness of exposed cohort; ② Selection of nonexposed cohort; ③ Ascertainment of exposure; ④ Outcome of interest was not present at start of study; ⑤ Study controls for age, sex, and marital status; ⑥ Study controls for any additional factors; ⑦ Assessment of outcomes; ⑧ Follow-up long enough for outcomes to occur; ⑨ Adequacy of follow-up

\* : One point

Table2 Summary of included studies

Study	Country	Year	Group	Samples	Age(year)	Gender (M/F)	BMI(kg/m <sup>2</sup> )	Siewert type (II/III)	Extent of resection PG/TG	Extent of LN dissection	Tumor stage (I/II/III/IV)	Tumor size(cm)	ASA (1/2/3)
Hong 2013	China	2008- 2012	LG	100	53.23± 11.03	71/29	24.13±2.31	100/0	0/100	D2	6/53/41/0	NA	6/92/2
					54.45± 10.44								
Huang 2017	China	2007- 2014	LG	171	62.4±8. 9	152/19	22.2±2.9	87/84	0/171	D2	27/47/97/0	52.4±21. 5	103/45 /23
					61.4±1 0.0							152/19	21.9±3.0
Shi 2018	China	2013- 2015	LG	132	60.08± 8.37	114/18	23.13±3.09	NA	20/112	D2	28/50/54/0	NA	NA
					60.54± 9.06								
Zhang 2018	China	2010- 2011	LG	36	62.22± 9.93	20/16	NA	17/19	31/5	D2	0/15/21/0	NA	21/12/ 3
					61.1±9. 33								24/17
Jia 2018	China	2015- 2017	LG	48	65.8±8. 6	38/10	NA	32/16	48/0	D2	16/26/6/0	NA	NA
					66.4±6. 8								

					61.9±8.							2.73±0.6		
Wang	Chin	2009-	LG	32	7	21/11	NA	17/15	0/32		D2	11/17/4/0	7	NA
2019	a	2014			61.9±6.								2.94±1.1	
			OG	43	0	23/20	NA	27/16	0/43			17/21/5/0	2	NA
														22/44/
Lee	Kore	2003-	LG	37	NA	26/11	22.0(2.8)	18/19	0/37		D1+/D2	5/16/16/0	NA	5
2019	a	2015												18/18/
			OG	71	NA	46/25	22.0(2.0)	33/38	0/71			4/22/45/0	NA	1
														40/121
Zhao	Chin	2007-	LG	468	10.40	330/138	22.51±2.61	150/318	0/468		D2	0/37/301/130	NA	/307
2019	a	2017			58.99±									22/26/
			OG	217	10.58	175/42	22.71±2.61	45/172	0/217			0/7/132/78	NA	169
					68									
					(40-		22.7 (15.8-						35 (10-	21/28/
Sugita	Japa	2008-	LG	50	86)	38/12	27.0)	50/0	40/10		D2+	26/17/7/0	80)	1
2021	n	2018			65									
					(41-		22.6 (19.1-						50 (25-	
			OG	29	74)	26/3	27.0)	29/0	6/23			8/7/14/0	80)	9/17/3
					63.2±8.									
Zhang	Chin	2010-	LG	52	6	44/8	22.1±1.3	NA	52/0		D1+	40/11/1/0	NA	NA
2021	a	2019			61.2±7.									
			OG	61	2	54/7	22.6±1.2	NA	61/0			37/23/1/0	NA	NA
					58.25±									
Lin	Chin	2004-	LG	93	9.20	75/18	21.68±2.05	47/46	37/56		D2	NA	NA	NA
2022	a	2015			59.16±									
			OG	93	10.27	70/23	21.57±2.92	45/48	37/56			NA	NA	NA

					64								
					(58-	24.45	(22.10-					3.49±1.6	201/16
Song	Chin	2014-	LG	382	69)	338/44	26.70)	382/0	0/382		D2	107/120/155/0	0
2022	a	2019			63		24.40						4/17
					(59-		(22.50,						3.69±1.6
			OG	196	69)	174/22	27.25)	196/0	0/196			49/70/77/0	2
													100/82
													/14

Continuous variables are presented as the means ± SDs or median and range. LG: Laparoscopic gastrectomy; OG: Open gastrectomy; BMI: Body mass index; NA: Not available; ASA: American Society of Anesthesiologists; M/F: Male/female; PG/TG: Proximal gastrectomy/ Total gastrectomy; LN: Lymph node.



### 3. Figures

- Please indicate the full name in Figure legends for all the abbreviated terms appearing in your Figures, including Figures S1-3.
- The below data in your main text are inconsistent with Figure 2E, 3A.

157 extracting and comparing the data of the Siewert II type separately, we found that LG still had certain advantages  
158 over OG. (WMD = 1.58, 95% CI: 0.32, 2.84; P < 0.010) (Fig2e). In addition, two studies(15, 25) included the  
168 patients in the LG group had significantly shorter postoperative hospital stays than those in the OG group  
169 (WMD=-1.98 days, 95% CI: -2.14, 1.83; P<0.001) with little heterogeneity (I<sup>2</sup>=49%, P=0.06) (Fig3a). Seven

**Reply:** Thank you for your suggestion. We have indicated the full name in Figure legends for all the abbreviated terms appearing in our Figures. In addition, we would like to thank you for the mistake you pointed out. It is the negligence of our team, and we are very sorry for it. We have made corresponding modifications.

**Changes in the text:** We made corresponding modifications in the sections of Number of drained LNs and Perioperative outcomes. “By extracting and comparing the data of the Siewert II type separately, we found that LG had a certain trend over OG (WMD = 2.06, 95% CI: -0.33, 4.45; P =0.09) (Figure2E). This meta-analysis revealed that patients in the LG group had significantly shorter postoperative hospital stays than those in the OG group (WMD=-1.96 days, 95% CI: -2.11, 1.81; P<0.001), with little heterogeneity (I<sup>2</sup>=49%, P=0.06) (Figure3A).”