

SAFETY AND EFFICACY OF NEOADJUVANT CHEMOTHERAPY FOR ADVANCED GASTRIC CANCER IN ELDERLY PATIENTS

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Background/Aim: Elderly patients with pathological stage II/III gastric cancer struggle to complete adjuvant chemotherapy. Neoadjuvant chemotherapy (NAC) for treating locally advanced gastric cancer (LAGC) has drawn attention, however, its indication for elderly patients who are vulnerable to chemotherapy is unclear. This study aimed to investigate the feasibility and efficacy of NAC for elderly patients with gastric cancer.

Patients and Methods: In this study, patients aged ≥ 75 years who underwent curative gastrectomy for LAGC or adenocarcinoma of the esophagogastric junction between April 2013 and November 2021 were included. Vulnerable patients, with poor Eastern Cooperative Oncology Group Performance Status (ECOG-PS) of 2-3 were also included.

The patients were classified into NAC + (n=20) and NAC - (n=45) groups. The clinicopathological data of the patients were retrospectively investigated.

Results:

- The NAC+ group showed a higher R0 resection rate than the NAC- group (100% vs. 89.1%, $p=0.3$, Table 1)
- Pathological downstaging was achieved in 12 (60%) cases, including five (25%) pathological complete responses (Table 3).
- The incidence of adverse events during neoadjuvant chemotherapy was 35% (Table 2)
- The rate of postoperative complications greater than Clavien-Dindo Grade II was comparable between the two groups (35% vs. 46.7%, $p=0.43$, Table 1).
- The NAC+ group showed a higher three-year overall survival rate (75% vs. 36%, $p=0.015$, Figure 2).

Table 1. Demographic and surgical characteristics of patients.

	NAC+Surgery (n=20)	Surgery alone (n=45)	p-Value
Age median (range)	77 (75-81)	84 (75-95)	<0.001
Sex Male/Female	12/8	32/11	0.26
ECOG-PS 0/1/2/3	3/9/5/3	2/25/13/3	0.36
Tumor location EGJ/U/M/L	7/4/3/6	6/8/13/18	0.21
cT* 1/2/3/4	0/4/8/8	1/5/24/16	0.30
cN* N0/N+	4/16	3/42	0.19
cM* 0/1	20/0	45/0	0.31
cStage I/II/III/IV	2/4/12/2	2/8/34/1	0.30
Procedure Distal gastrectomy	8 (40.0%)	25 (55.6%)	0.31
Total gastrectomy	5 (25.0%)	13 (28.9%)	
Proximal gastrectomy + esophagectomy	7 (35.0%)	7 (15.6%)	
Approach Laparotomy	7 (35.0%)	14 (31.1%)	0.78
Laparoscopy or Robotic	13 (65.0%)	31 (68.9%)	
R0 resection	20 (100%)	41 (89.1%)	0.30
Postoperative complication (\geq Clavien-Dindo grade II)	7 (35.0%)	21 (46.7%)	0.43
Pneumonia	2	2	
Pancreatic fistula	1	6	
Anastomotic failure	0	4	
Anastomotic bleeding	1	2	
Others	2	9	
Postoperative stay (days)	16 (10-43)	24.5 (9-92)	0.0067

* TNM classification 7th edition (International Union Against Cancer)

Table 2. Neoadjuvant chemotherapy (n=20).

	Number of patients (%)
Regimens S-1+oxaliplatin	10 (50%)
S-1+cisplatin	3 (15%)
Others	7 (35%)
Completion	14 (70%)
Physical rehabilitation	10 (50%)
Nutritional support	18 (90%)
Reason for the termination	6 (30%)
Disease progression	3 (15%)
Adverse events	3 (15%)
Adverse events (\geq CTCAE grade3)	7 (35%)
Neutropenia	3 (15%)
Diarrhea	2 (10%)
Anemia	2 (10%)
Dose reduction	11 (55%)
Dose reduction from the first course	8 (40%)

Table 3. Postoperative findings.

	NAC+Surgery (n=20)	Surgery alone (n=45)	p-Value
pT stage 0/1/2/3/4	5/2/2/9/2	0/6/4/16/19	0.020
pN stage N0/N+	11/9	8/37	0.0063
pM stage 0/1	13/0	36/3	0.56
pStage 0/I/II/III/IV	5/2/8/5/0	0/5/12/23/4	0.0029
Histological response 1a/1b/2a/2b/3	5/3/3/3/6		
Adjuvant chemotherapy	11 (55%)	5 (11.1%)	<0.001
Recurrence	4 (20%)	17 (37.8%)	0.25
Peritoneum	4	5	
Lymph node	1	5	
Liver	3	7	

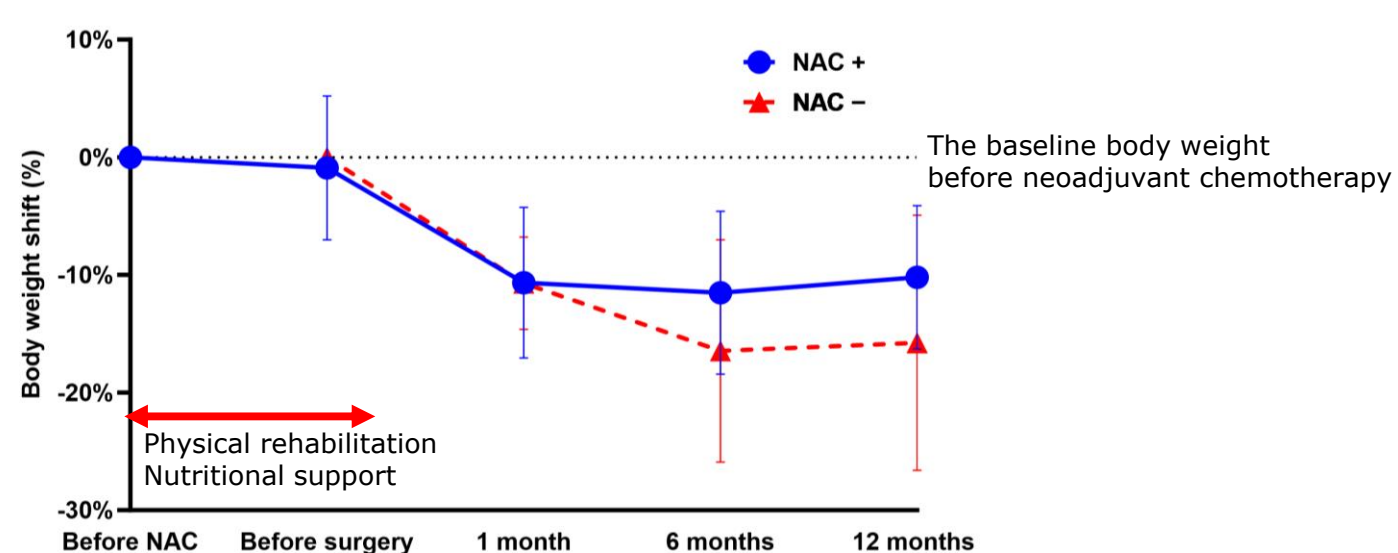


Figure 1. The perioperative shift of body weight. The body weight loss rates in each group are shown as Mean \pm SD.

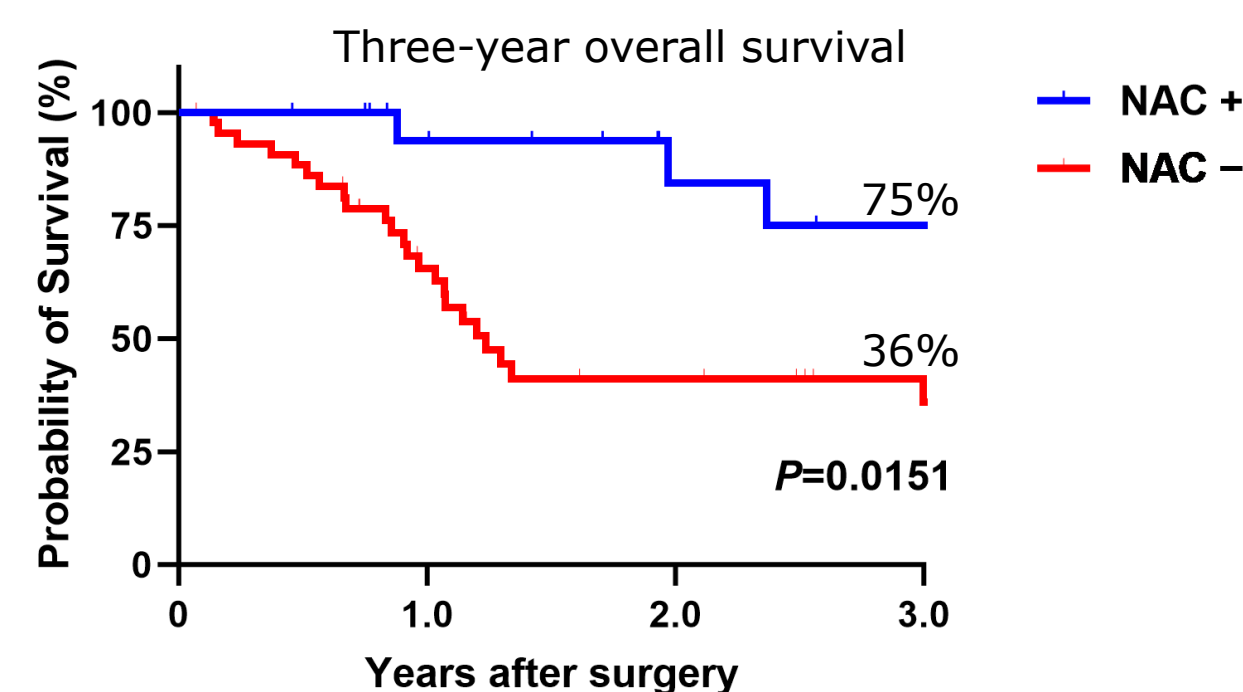
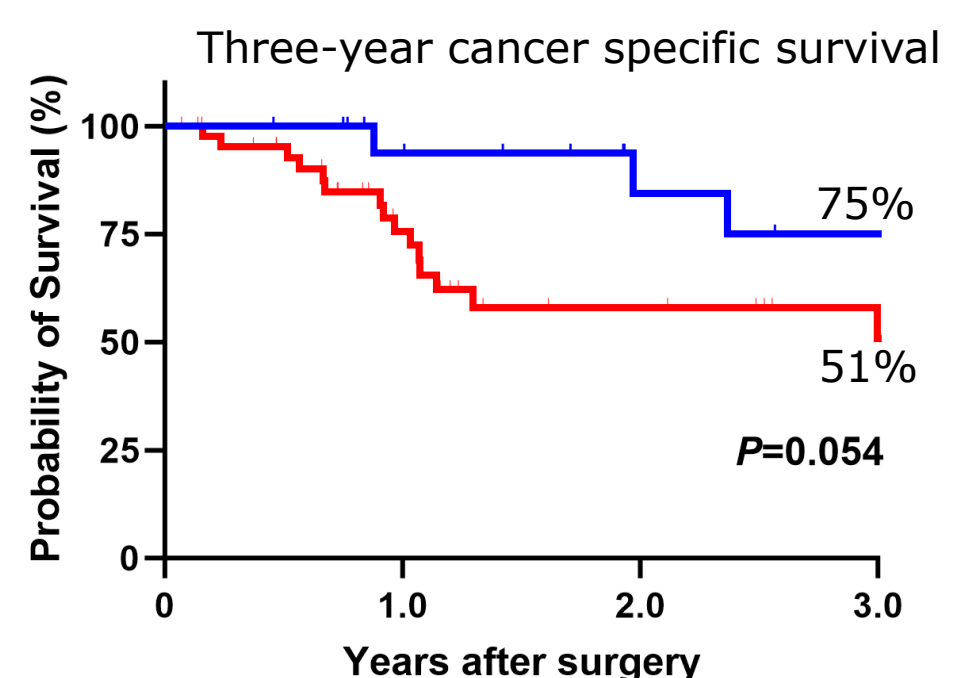


Figure 2. Kaplan-Meier curves for survival.



Conclusion: NAC was feasible and effective for elderly patients including vulnerable patients with LAGC or adenocarcinoma of the esophagogastric junction. It can be considered as treatment option, with a high down staging rate and better survival.