



Mide Kanseri Cerrahi Tedavi İlkeleri

Ne değişti?

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KTÜ Genel Cerrahi ABD

XXII. Ulusal Cerrahi Kongresi, 24 Mart 2022

Herhangi bir biomedikal firma ile
çıkar çatışmam bulunmamaktadır.



Let's Meet Where the Continents Meet

33rd WORLD CONGRESS
of International Association of Surgeons,
Gastroenterologists and Oncologists

SEPTEMBER 28TH - OCTOBER 1ST, 2022

IASGO

The General Rules for the Gastric Cancer Study in Surgery and Pathology

Part II. Histological Classification of Gastric Cancer

The Japanese Research Society Committee on Histological
Classification of Gastric Cancer

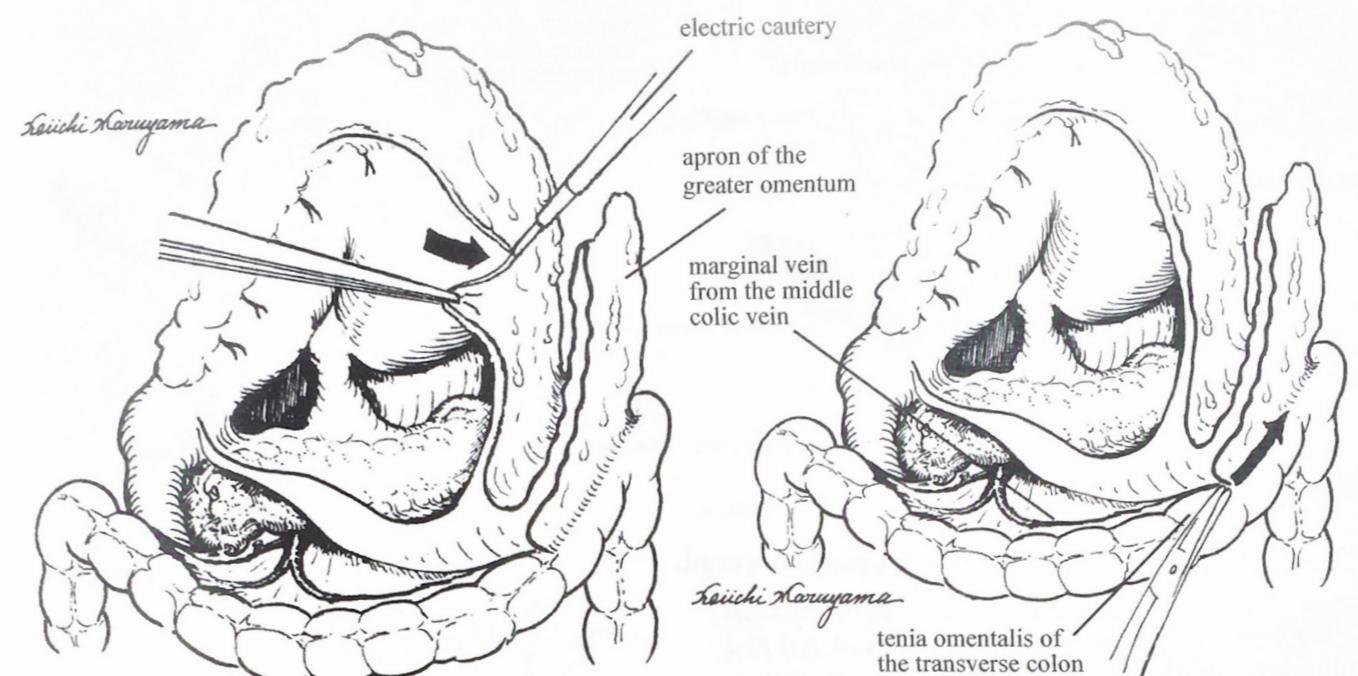


Fig. 9 Division line for the apron-preserving omentectomy

For the cases with no possibility of metastasis in the bursa and peritoneum, namely T1 and T2 tumor, the apron of the greater omentum can be preserved. It is useful to cover the small bowel and to prevent ileus.

Fig. 10 Division line for total omento-bursectomy

For the cases with possibility of metastasis in the bursa and peritoneal cavity (T2 and T3 tumor) and negative washing cytology, the total omento-bursectomy is indicated. This procedure will start at separation of the greater omentum from the tenia omentalis.

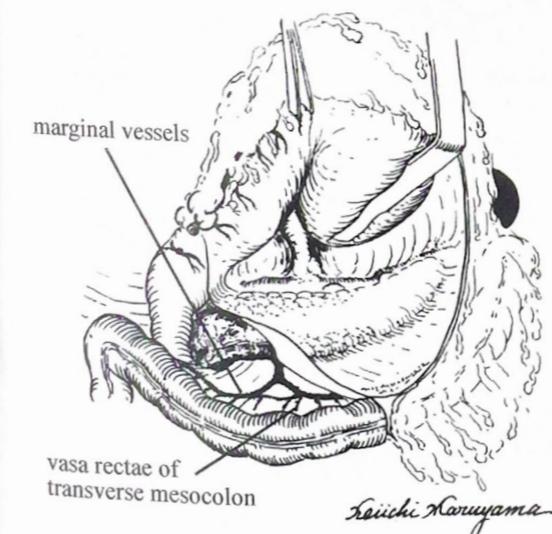


Fig. 11 Right side bursectomy to expose the infrapyloric nodes (No. 6)

Even for the apron preserving cases, this procedure is essential to remove No. 6 nodes. During the separation, the vasa rectae of the transverse colon, marginal vessels, and the middle colic vein are the useful index to trace the correct plane.

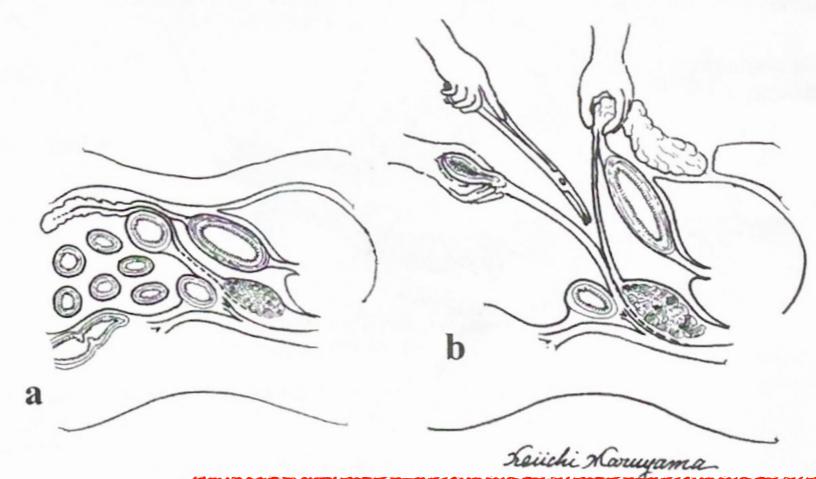


Fig. 12 Separation of the anterior sheet (dorsal mesogastrium) and posterior sheet of the mesocolon

Because of different embryonic origin, the anterior and posterior sheets have no vascular connection (a). These two membranes can be separated easily without bleeding. Assistant should tracts the transverse colon downward to make the mesocolon flat. Then the operator lift the greater omentum upward and push the mesocolon and the veins downward by scissors (b).



~1880

J. Pean

L. Rydiger

T.Billroth

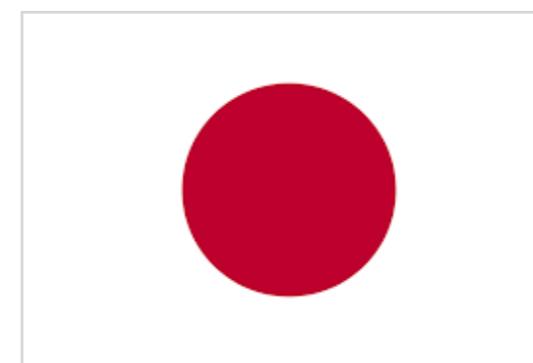
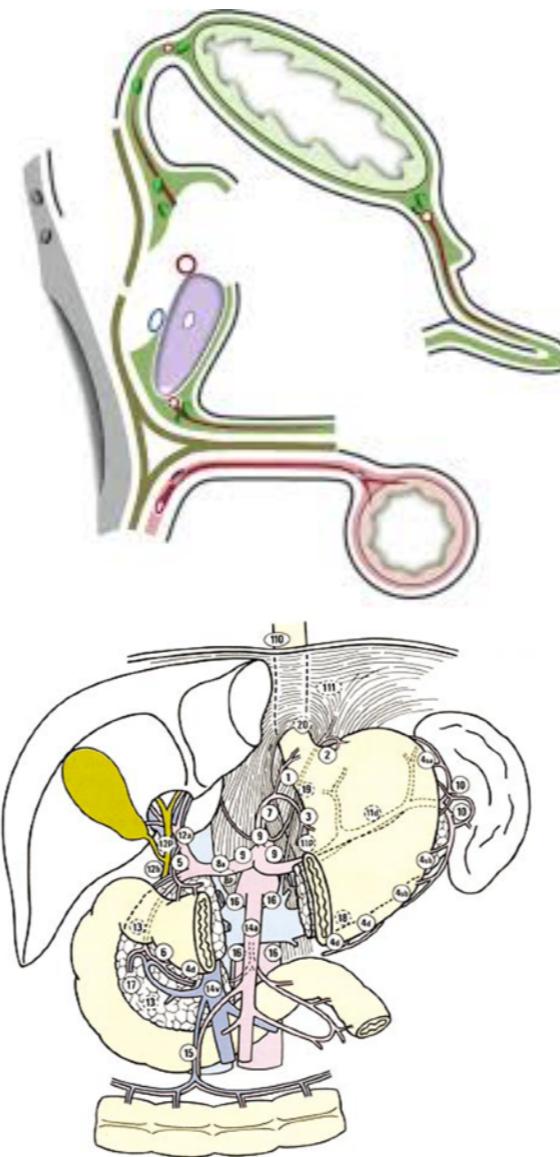
~1950

~1950-80

T. Kajitani

I. Ohashi

D. Jinnai



Lenfadenektomi
Bursektomi
Omentektomi
Splenektomi
Pankreatektomi
MIS
EGJ
Evre 4
Neoadj/Adj Tx

KILAVUZLAR

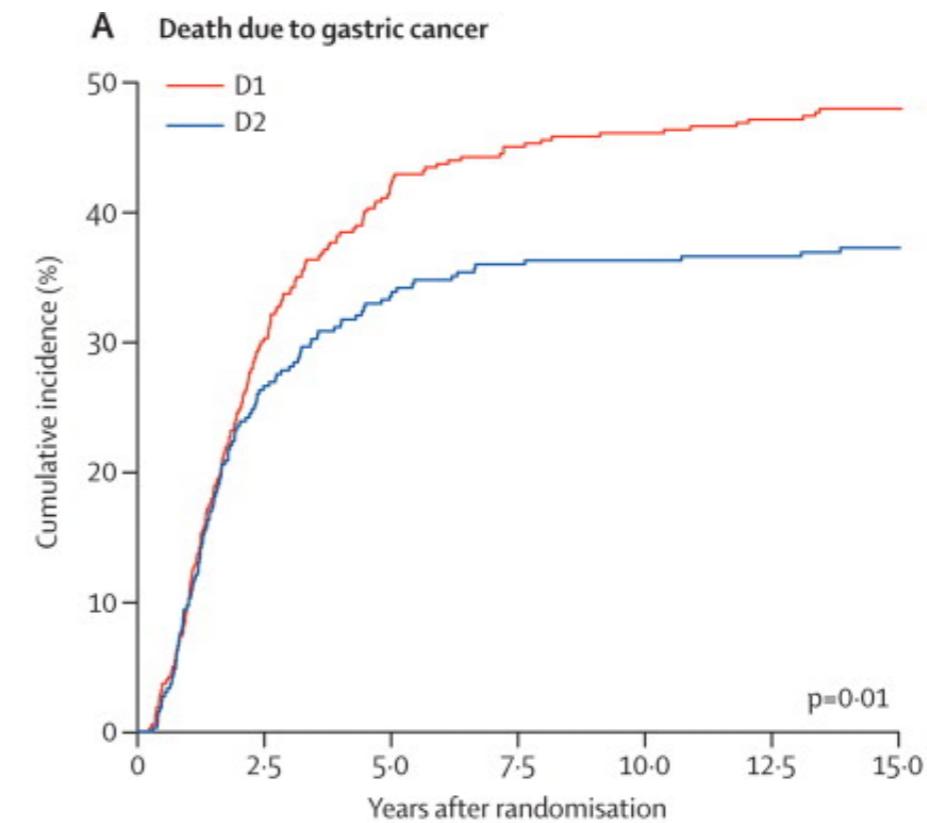
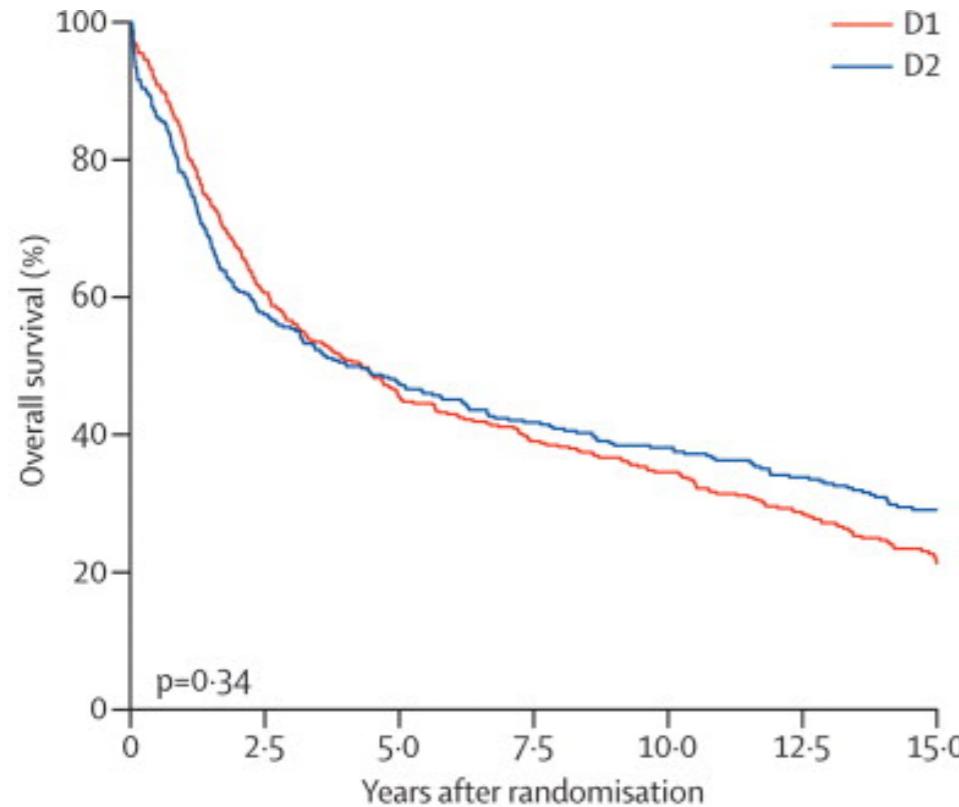
Lenfadenektomi



D1 vs D2

D2 vs D2+PALN

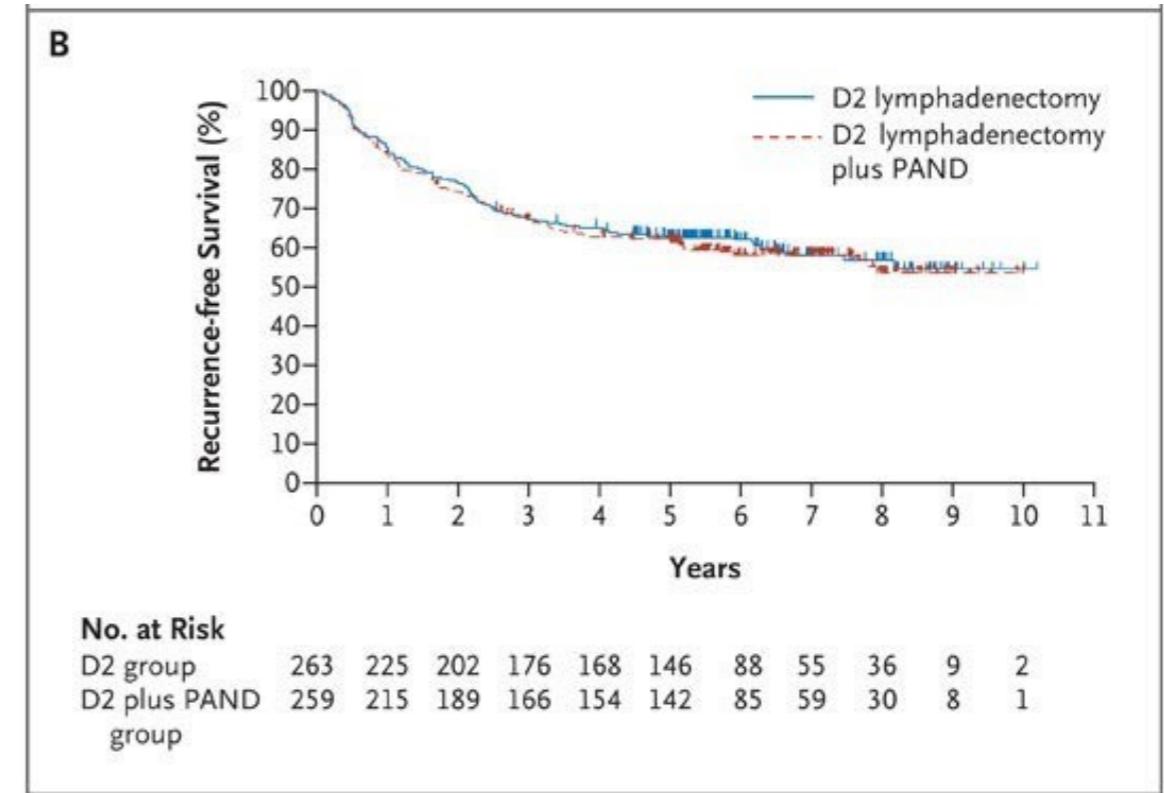
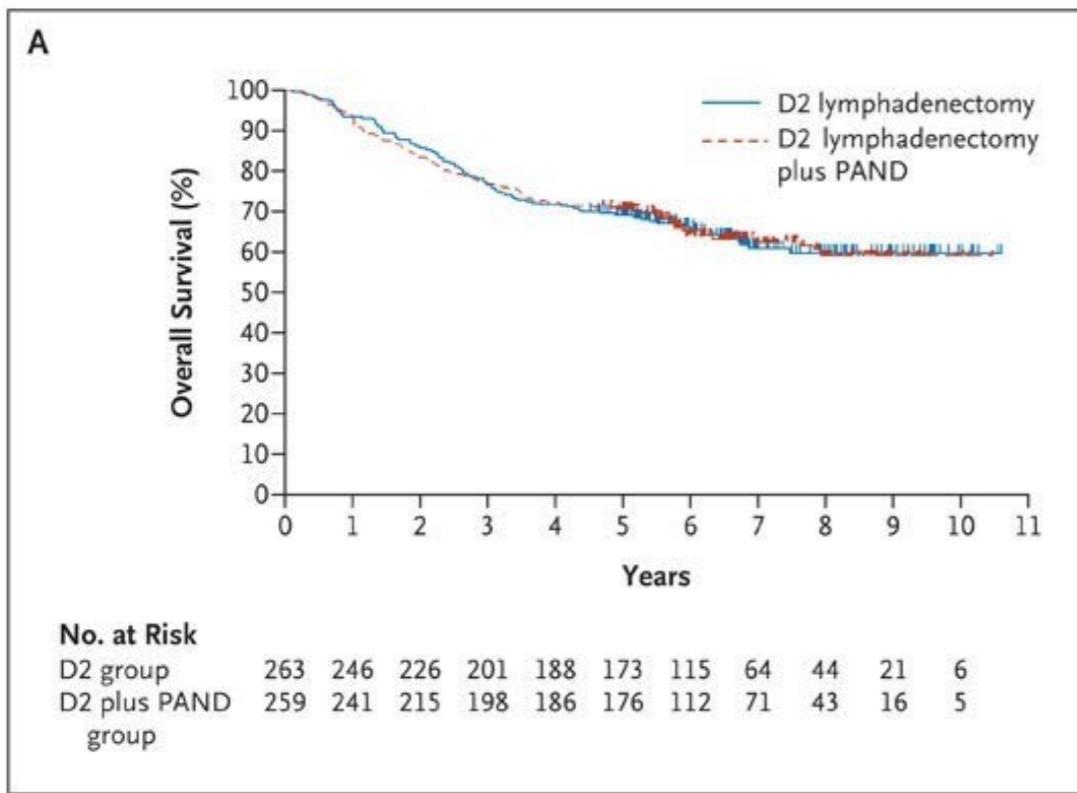
D1 vs D2



D2 lymphadenectomy is associated with lower locoregional recurrence and gastric-cancer-related death rates than D1 surgery.

D2 lymphadenectomy is the recommended surgical approach for patients with resectable (curable) gastric cancer.

D2 vs D2+PALN

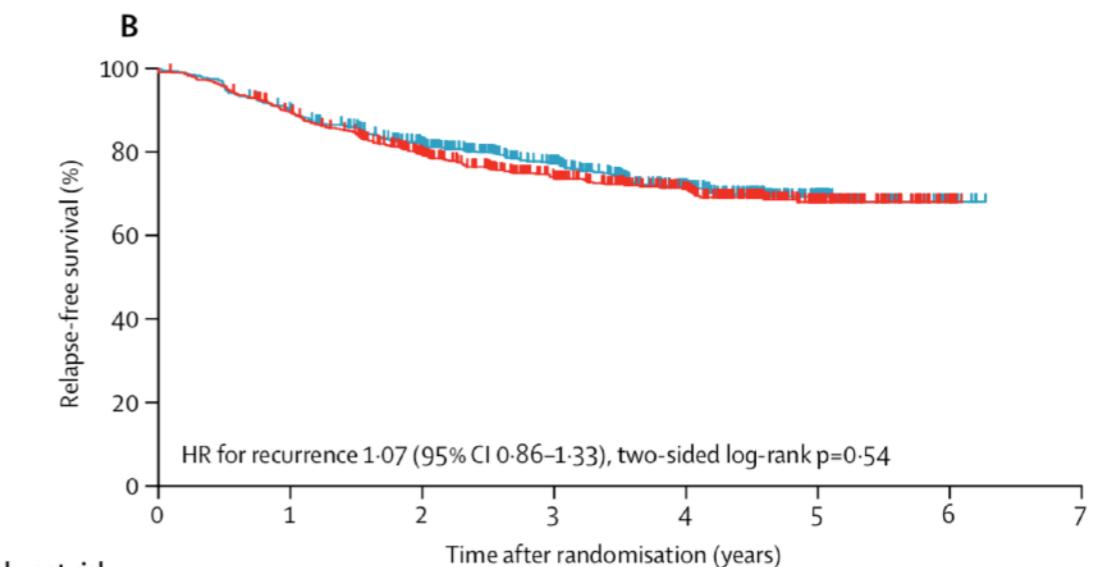
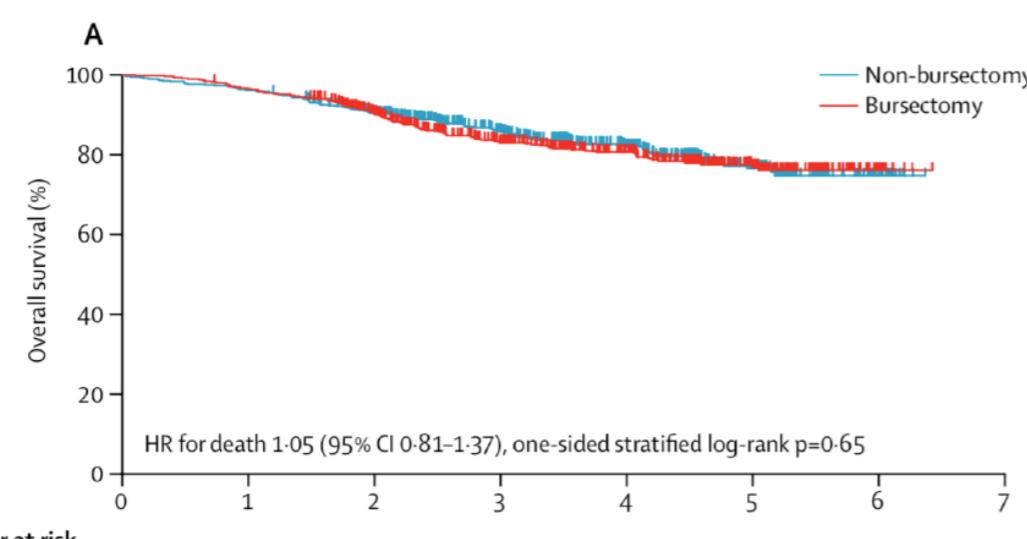


As compared with D2 lymphadenectomy alone, treatment with

D2 lymphadenectomy plus PAND does not improve the survival

rate in curable gastric cancer.

Bursectomili vs Bursectomisiz



Bursectomy **did not provide a survival advantage** over non-bursectomy.

D2 dissection with omentectomy alone should be done as a standard surgery for resectable cT3-T4a gastric cancer.

Total vs Parsiyel

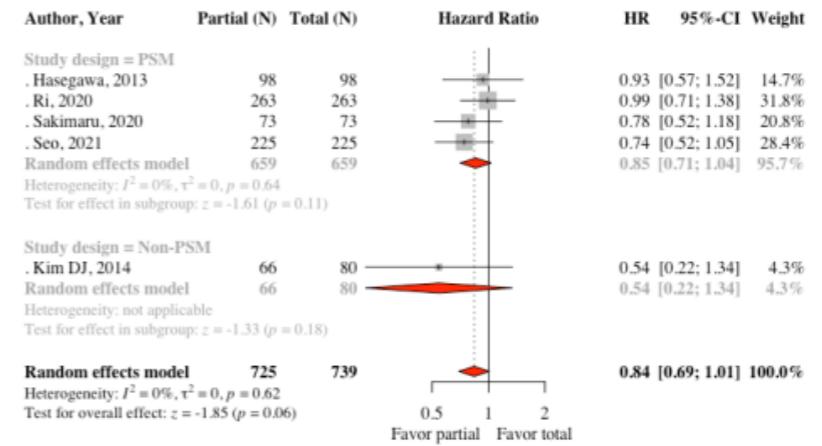
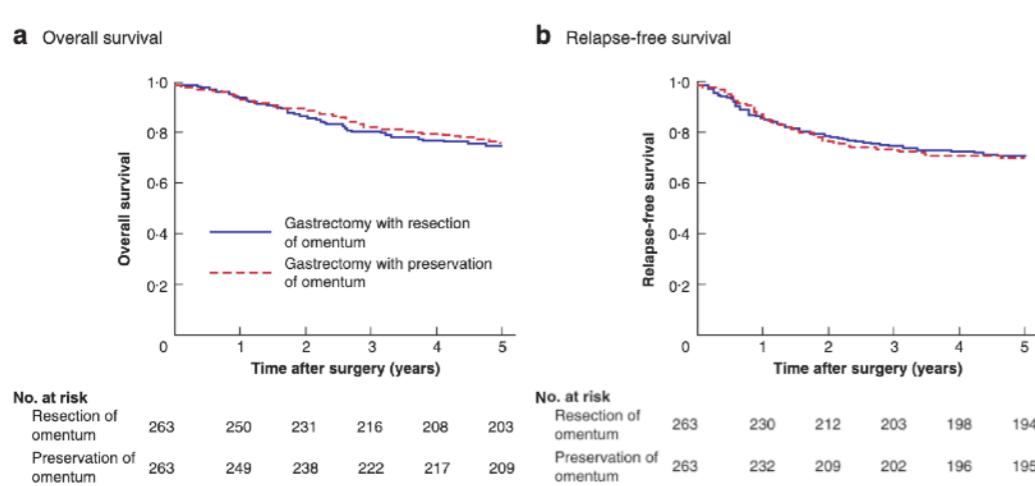


Figure 2. Forest plot comparing disease-free survival between the partial omentectomy group and the total omentectomy group.

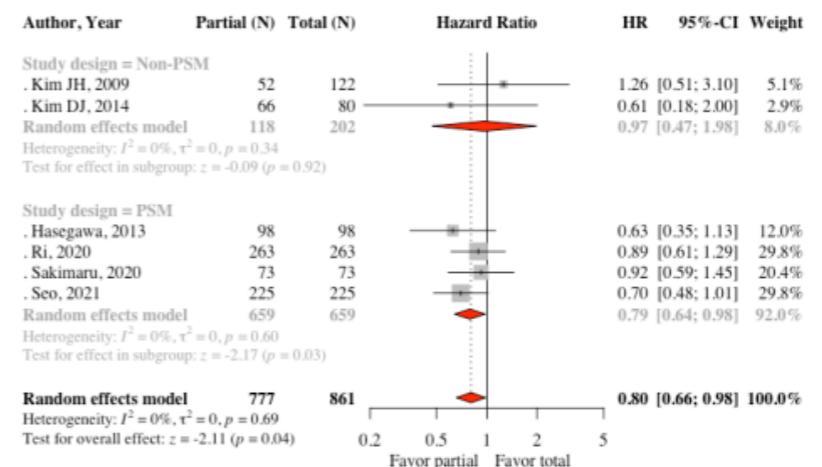


Figure 3. Forest plot comparing overall survival between the partial omentectomy and the total omentectomy group.

Overall survival and disease recurrence were **comparable** in patients with cT3–4 gastric cancer who underwent GPO or GRO.

Ri M et al. BJS 2020

Chai SW et al. Cancers 2021

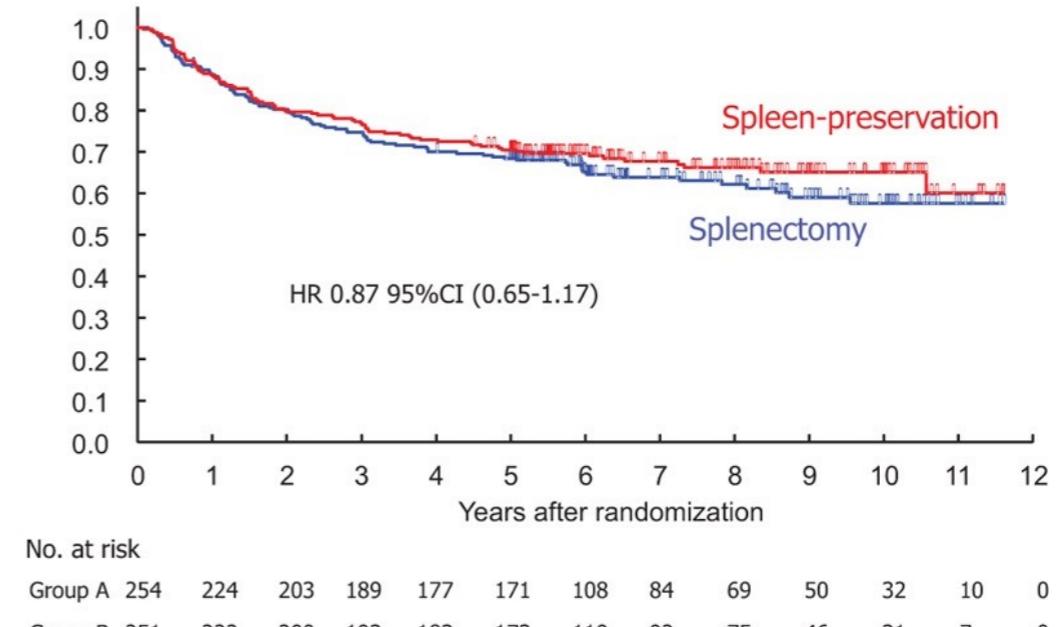
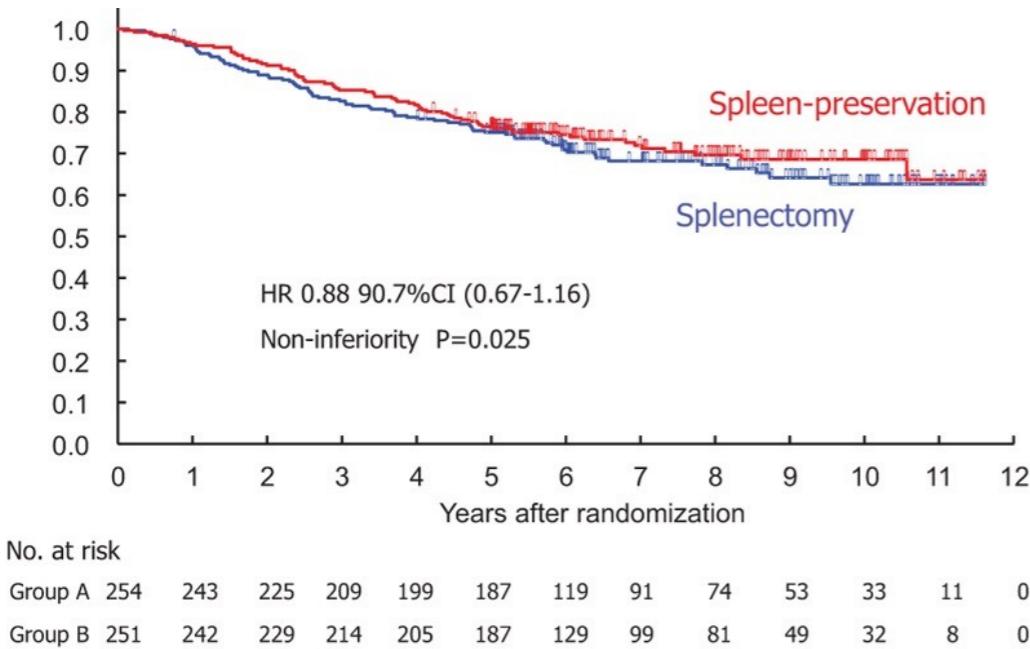
Recruitment status	Open public recruiting
Unique ID issued by UMIN	UMIN000036253
Receipt No.	R000041060
Scientific Title	Randomized controlled phase III trial to evaluate omentum preserving gastrectomy for patients with advanced gastric cancer (JCOG1711, ROAD-GC)
Date of disclosure of the study information	2019/03/19

~1050 hasta

Tarih: 2019-2031

Recruitment status	Open public recruiting
Date of protocol fixation	2019 Year 01 Month 07 Day
Date of IRB	2019 Year 02 Month 28 Day
Anticipated trial start date	2019 Year 03 Month 19 Day
Last follow-up date	2031 Year 09 Month 19 Day

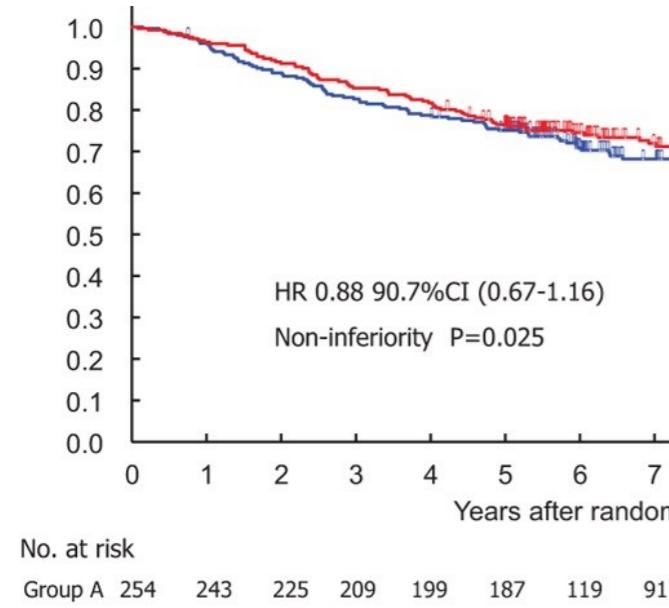
Splenektomili vs Splenektomisiz



In total gastrectomy for proximal gastric cancer that does not invade the greater curvature, splenectomy should be avoided as it increases operative morbidity **without improving survival**.

Splenektomili vs Splenektomisiz

TABLE 1. Eligibility Criteria of the Trial



Inclusion criteria

Before operation

- Histologically proven adenocarcinoma
- A T2/T3/T4* tumor located in the upper third of the stomach
- Absence of or 3 cm or shorter esophageal invasion by endoscopy and barium fluoroscopy
- Absence of tumor invasion of the greater curvature
- Not a stump cancer
- Not of limitis plastica type (Borrmann type 4)
- N0/N1/N2* and M0 by diagnostic imaging
- Sufficient organ functions for total gastrectomy with splenectomy
- Age between 20 and 75 years inclusive
- No previous chemotherapy or surgery for gastric cancer
- Written informed consent from the patient

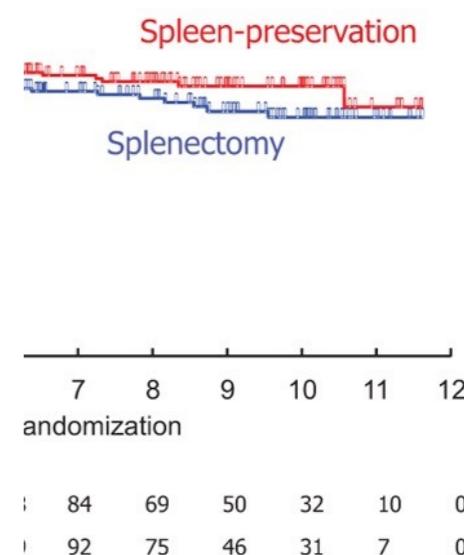
During operation

- Absence of or 3 cm or shorter esophageal invasion, and absence of tumor invasion of the greater curvature by inspection and palpation
- T2/T3/T4* and N0/N1/N2* by inspection and palpation
- Peritoneal lavage cytology is negative for cancer cells
- Curative operation is feasible without combined resection of the pancreas and spleen
- No gross lymph node metastasis along the splenic artery or splenic hilum

* Tumors were staged according to both Japanese Classification (13th ed., 1998) and UICC-TNM (6th ed., 2006).

Exclusion criteria

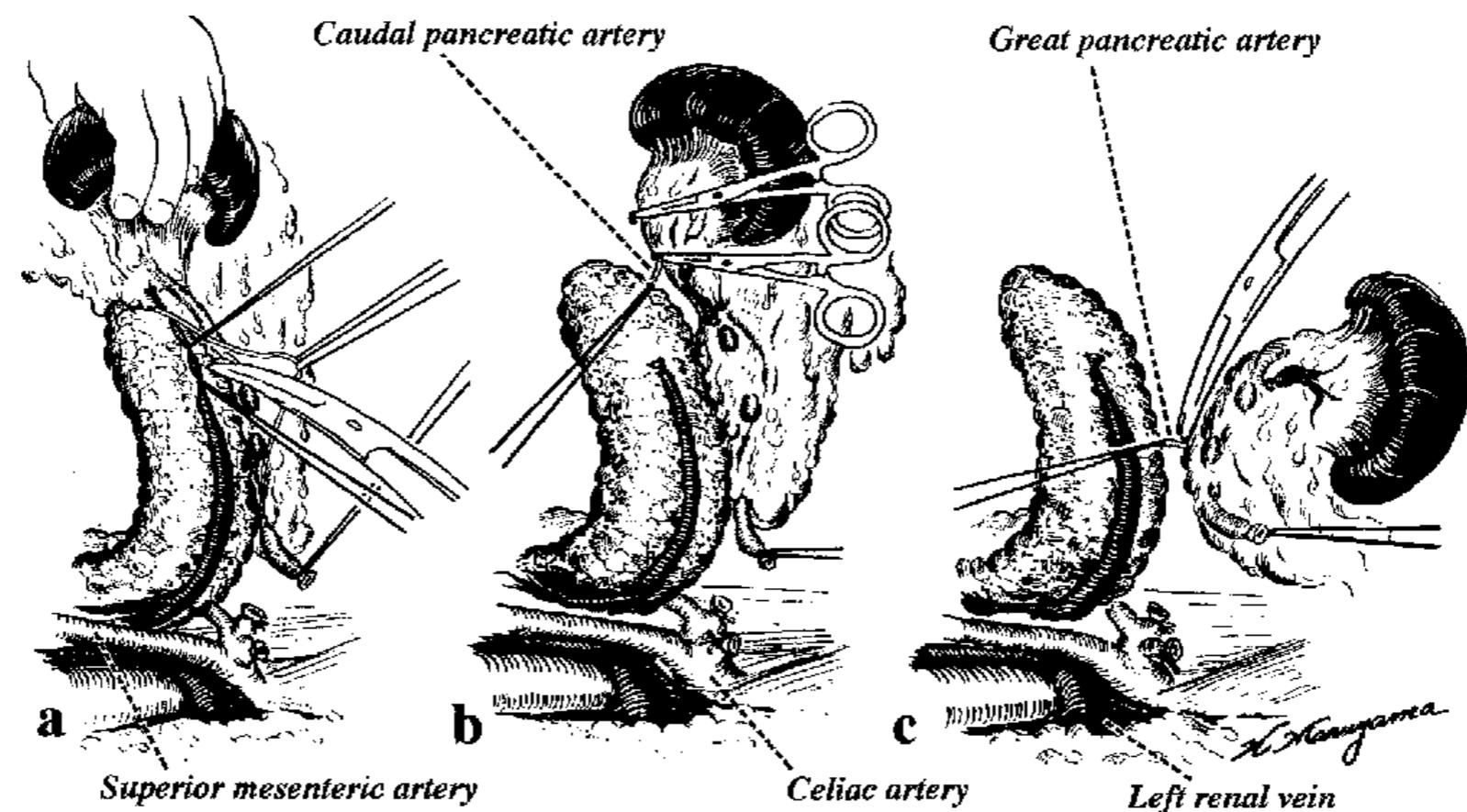
- Liver cirrhosis, or portal hypertension
- Idiopathic thrombocytopenic purpura, or other diseases for which splenectomy is a treatment option
- Previous splenectomy
- Interstitial pneumonia, pulmonary fibrosis, or extensive pulmonary emphysema
- Synchronous or metachronous malignancy in other organs except for carcinoma in situ or intramucosal tumor cured by local resection
- Pregnant, or possibly pregnant
- Psychotic disorders inappropriate for participation in clinical trials



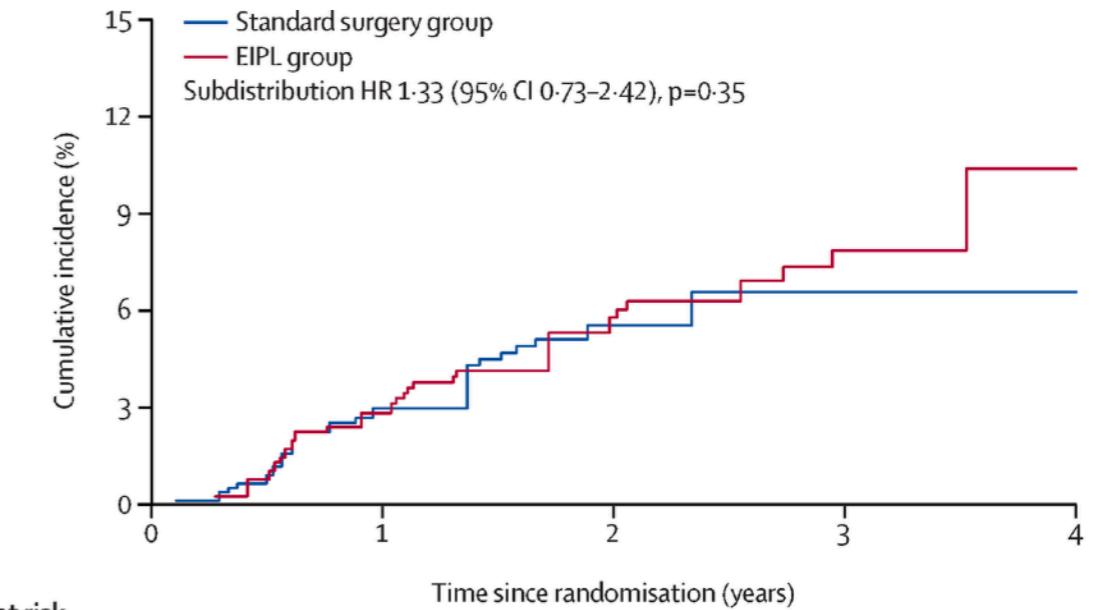
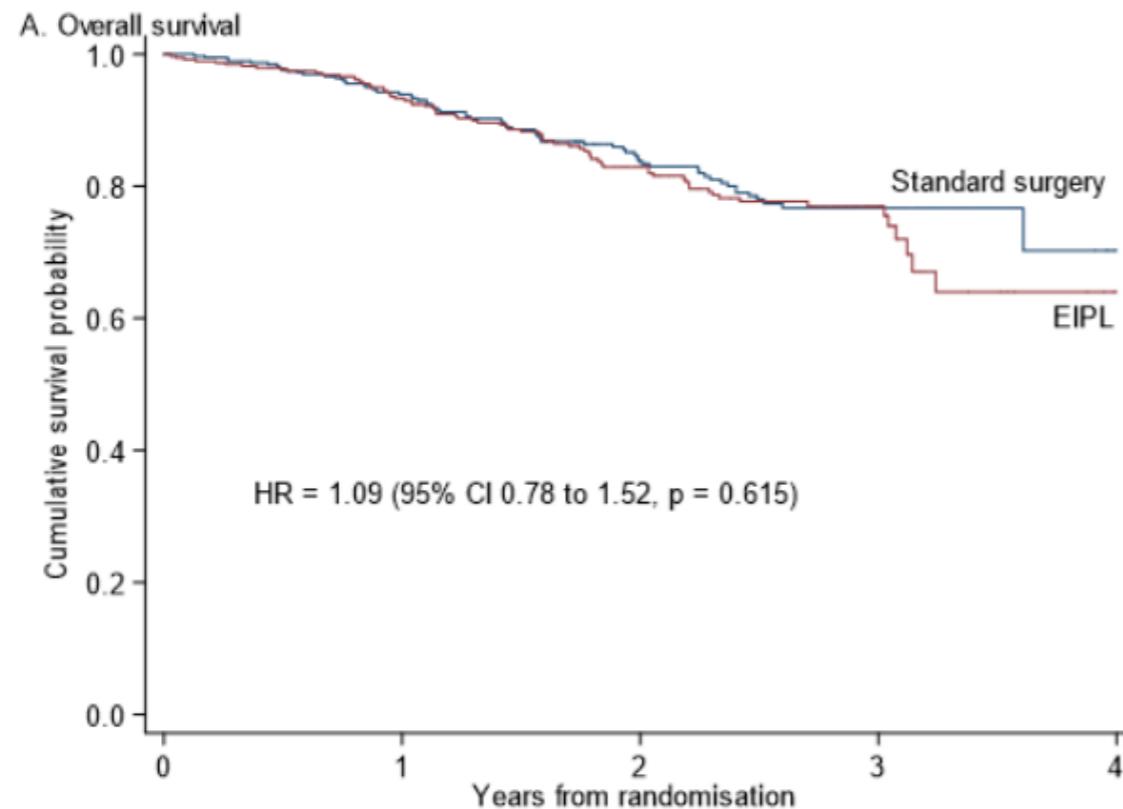
In total gastrectomy for proximal gastritis increases operative morbidity without

splenectomy should be avoided as it

Pancreas-preserving surgery

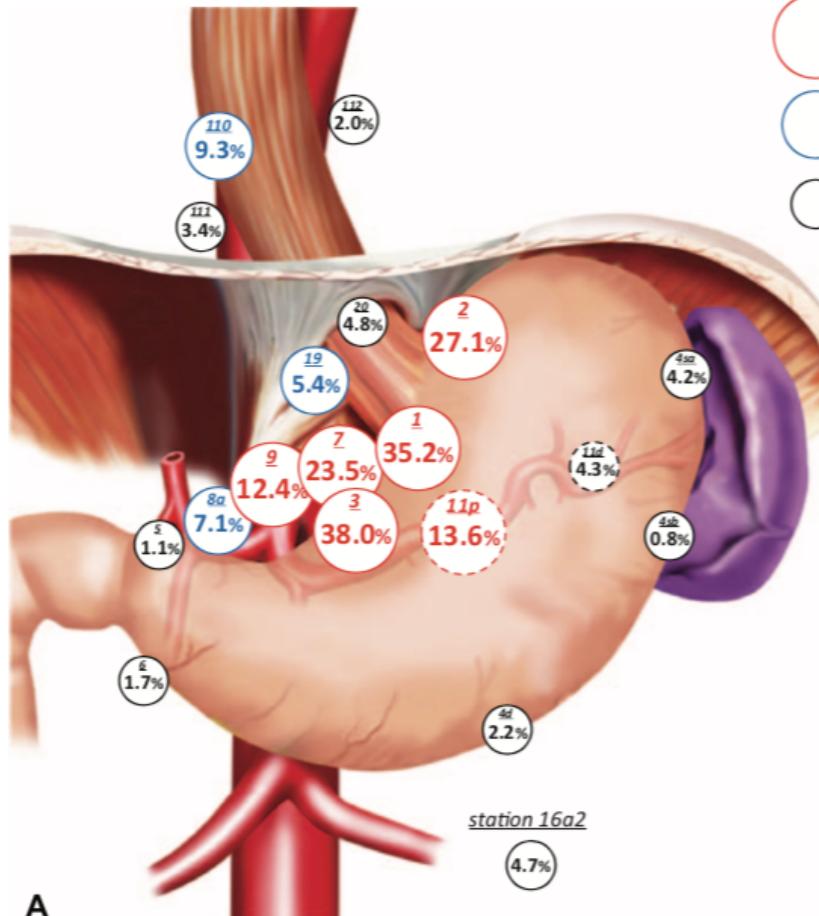


Extensive Intraperitoneal Lavage

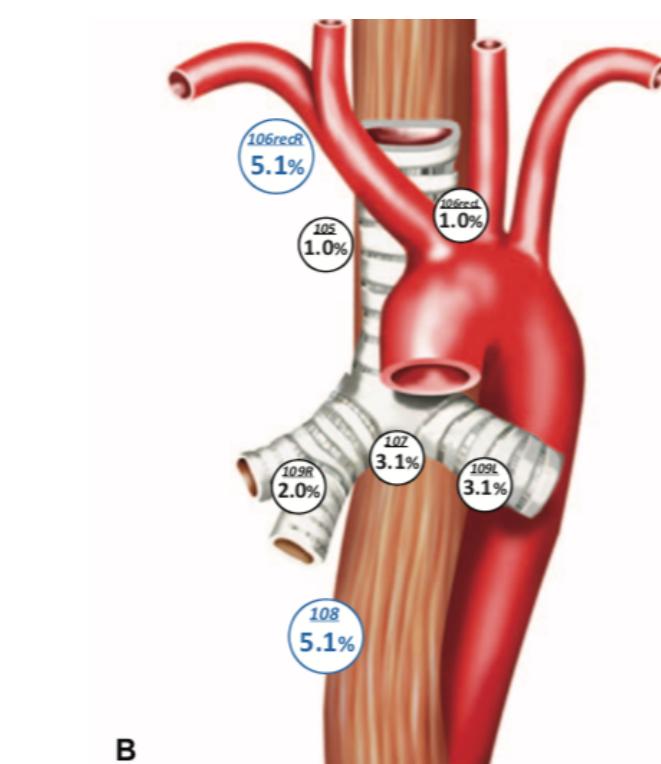
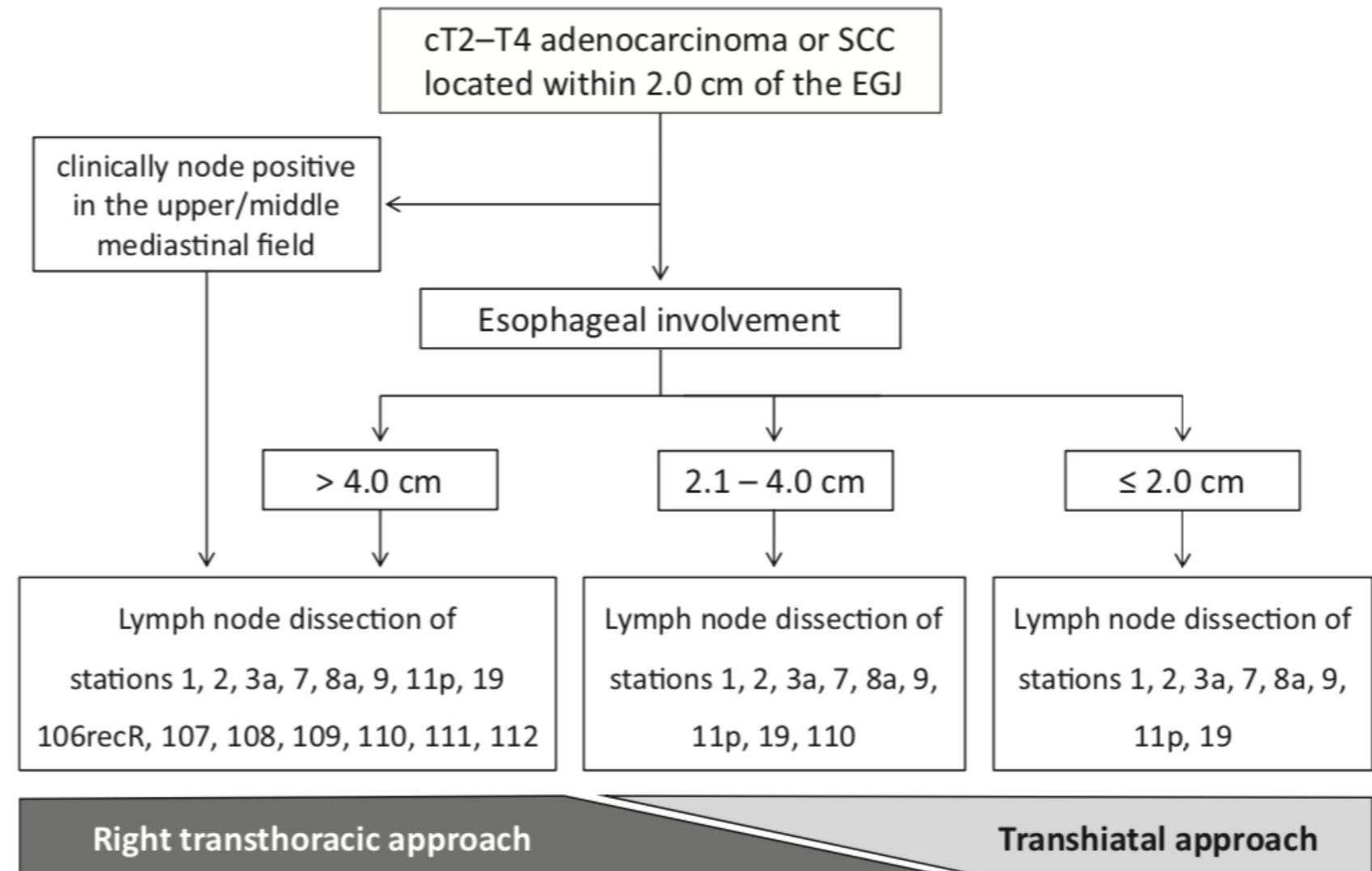


Number at risk (number of peritoneal recurrences)	Standard surgery	EIPL with surgery
0	401 (0)	396 (0)
1	305 (12)	299 (10)
2	169 (6)	168 (9)
3	58 (1)	58 (5)
4	6 (0)	11 (1)

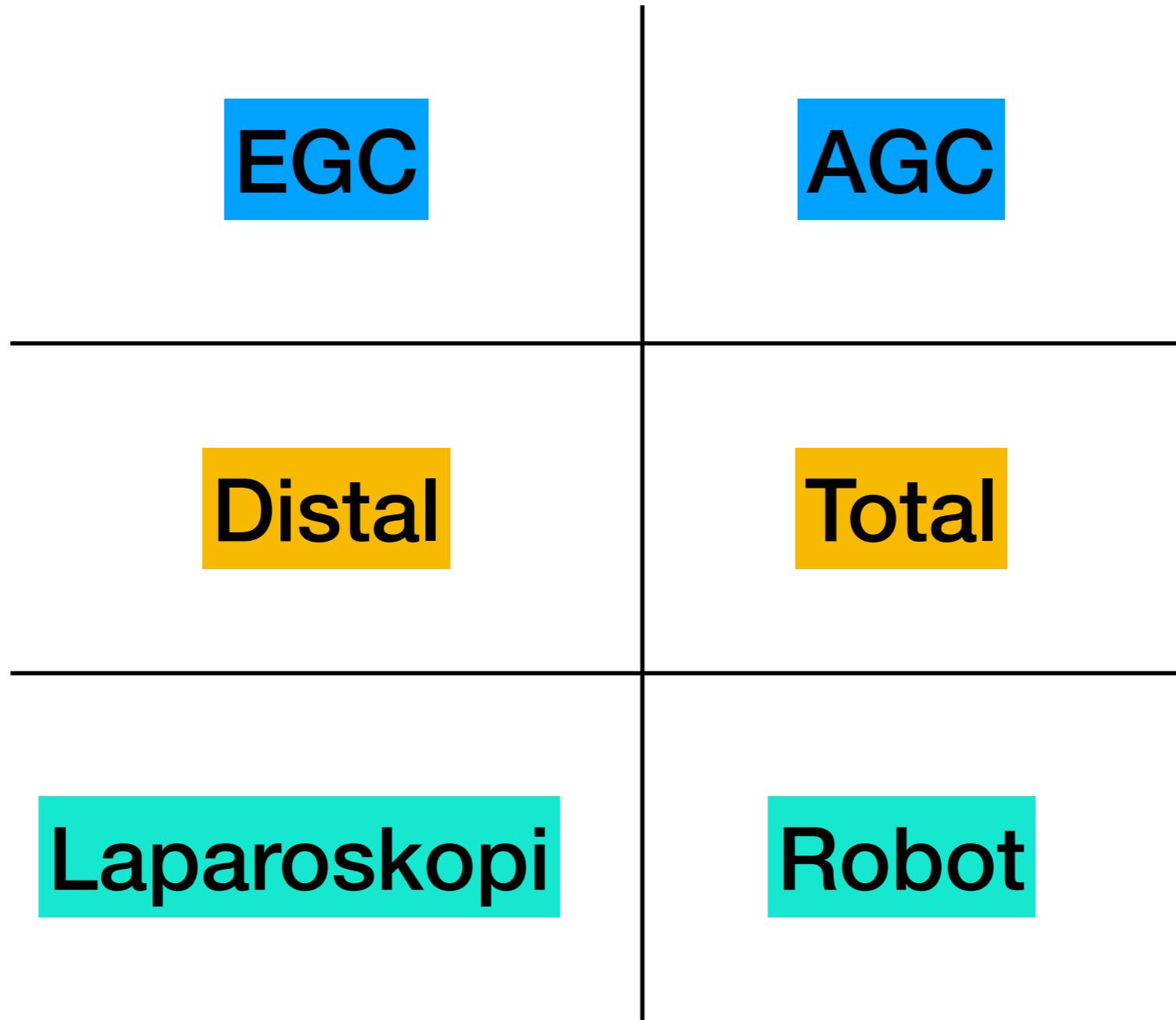
Extensive lavage with saline **did not reduce risk of peritoneal recurrence nor improve survival** after gastric cancer surgery. It may increase risk of postoperative complications



- Category-1 stations
- Category-2 stations
- Category-3 stations



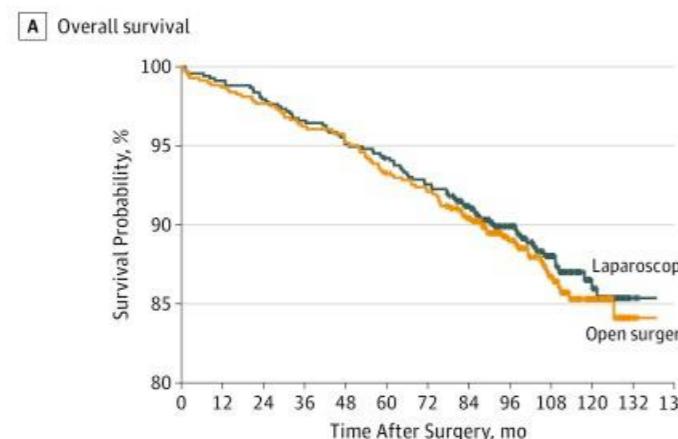
Minimal İnvaziv Cerrahi



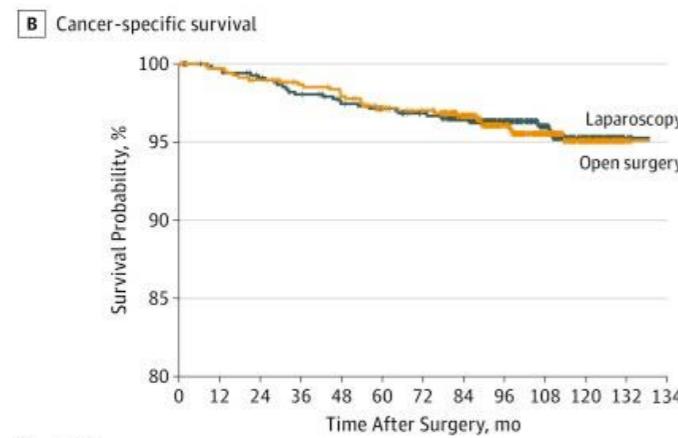
EGC

Distal

Laparoskopi

 RCT
KLASS01

No. at risk
Laparoscopy 673 667 659 650 640 629 618 551 384 280 156 9
Open surgery 686 675 668 658 651 631 618 546 375 268 153 9

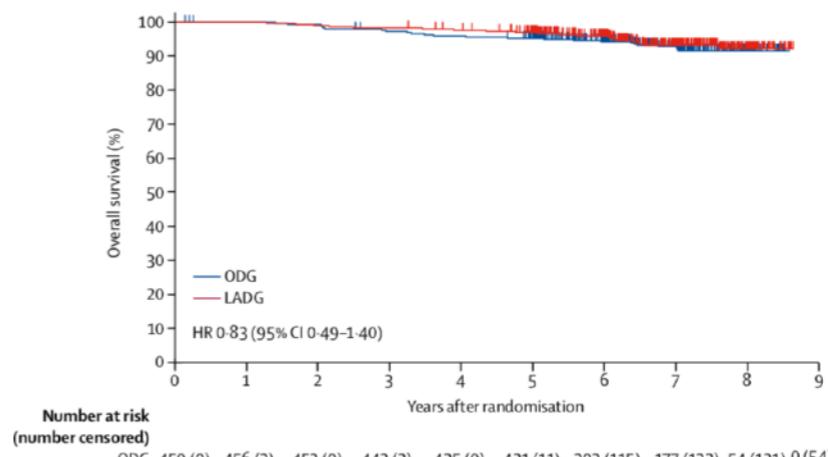


No. at risk
Laparoscopy 673 667 659 650 640 629 618 551 384 280 156 9
Open surgery 686 675 668 658 651 631 618 546 375 268 153 9

5y-OS

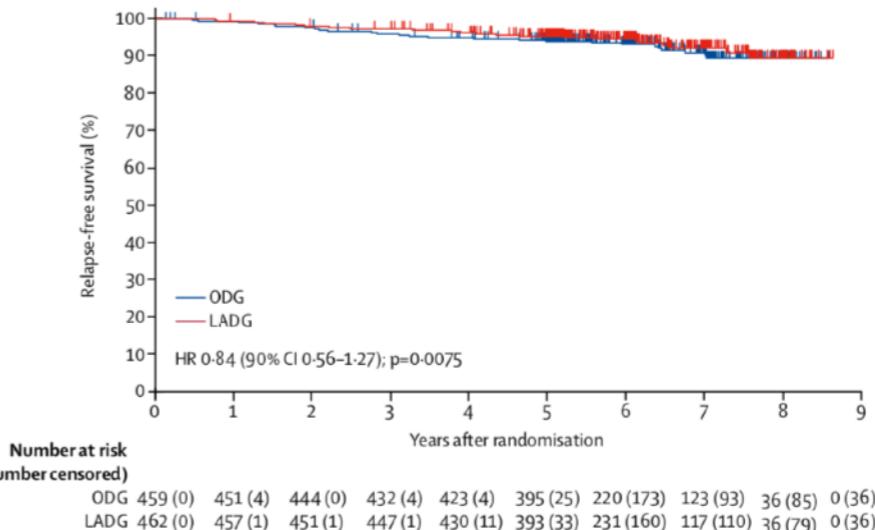
94.2% LDG grup

93.3% ODG grup

JCOG0912**5y-RFS**

95.1% LDG grup

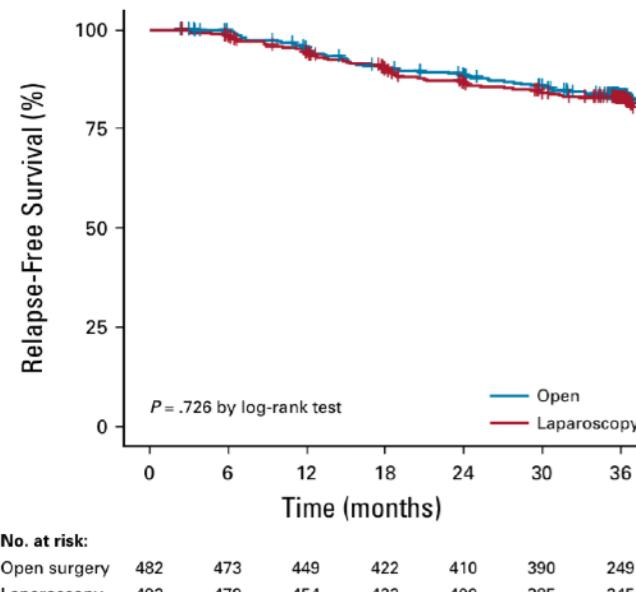
94% ODG grup



similar overall and cancer-specific survival rates between patients receiving laparoscopic and open distal gastrectomy

non-inferiority of LADG compared with ODG for clinical stage I gastric cancer relapse-free survival, suggesting that LADG should be considered a standard treatment option when performed by experienced surgeons.

KLASS02

3y-RFS

80.3% LDG grup

81.3% ODG grup

Laparoscopic distal gastrectomy with D2 lymphadenectomy was

comparable to open surgery in terms of relapse-free survival for patients with locally advanced gastric cancer.

JLSSG0901

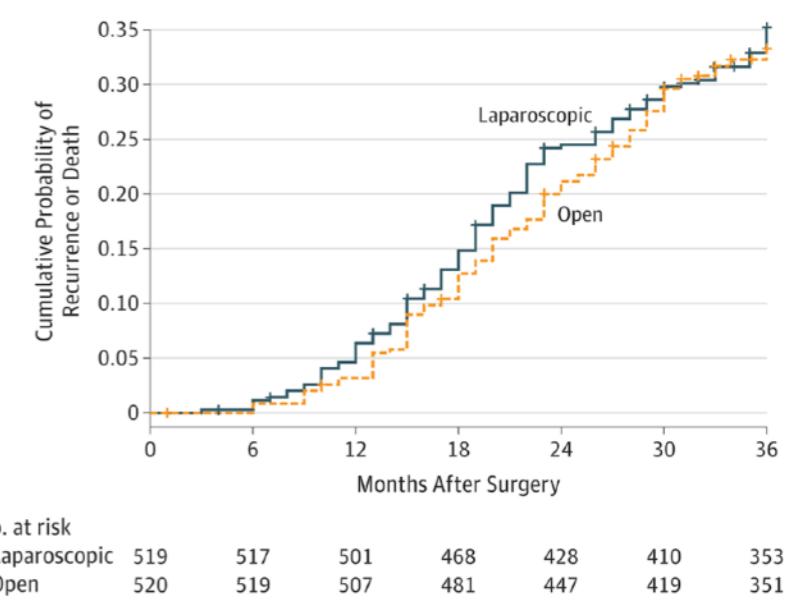


The **technical safety** of LADG with D2 lymph node dissection for locally advanced gastric cancer was demonstrated

Inahi N et al. World J Surg 2015

**5-yr RFS Hazard ratio: 0.9556
(95%CI: 0.7226-1.2637 < 1.31)
Non-inferiority P=0.0317**

CLASS01

3y-DFS

76.5% LDG grup

77.8% ODG grup

- Laparoscopic distal gastrectomy, compared with open distal gastrectomy, **did not result in inferior** disease-free survival at 3 years.
- Laparoscopic distal gastrectomy with D2 lymphadenectomy performed by **experienced** surgeons in high-volume specialized institutions resulted in similar 5-year overall survival

AGC

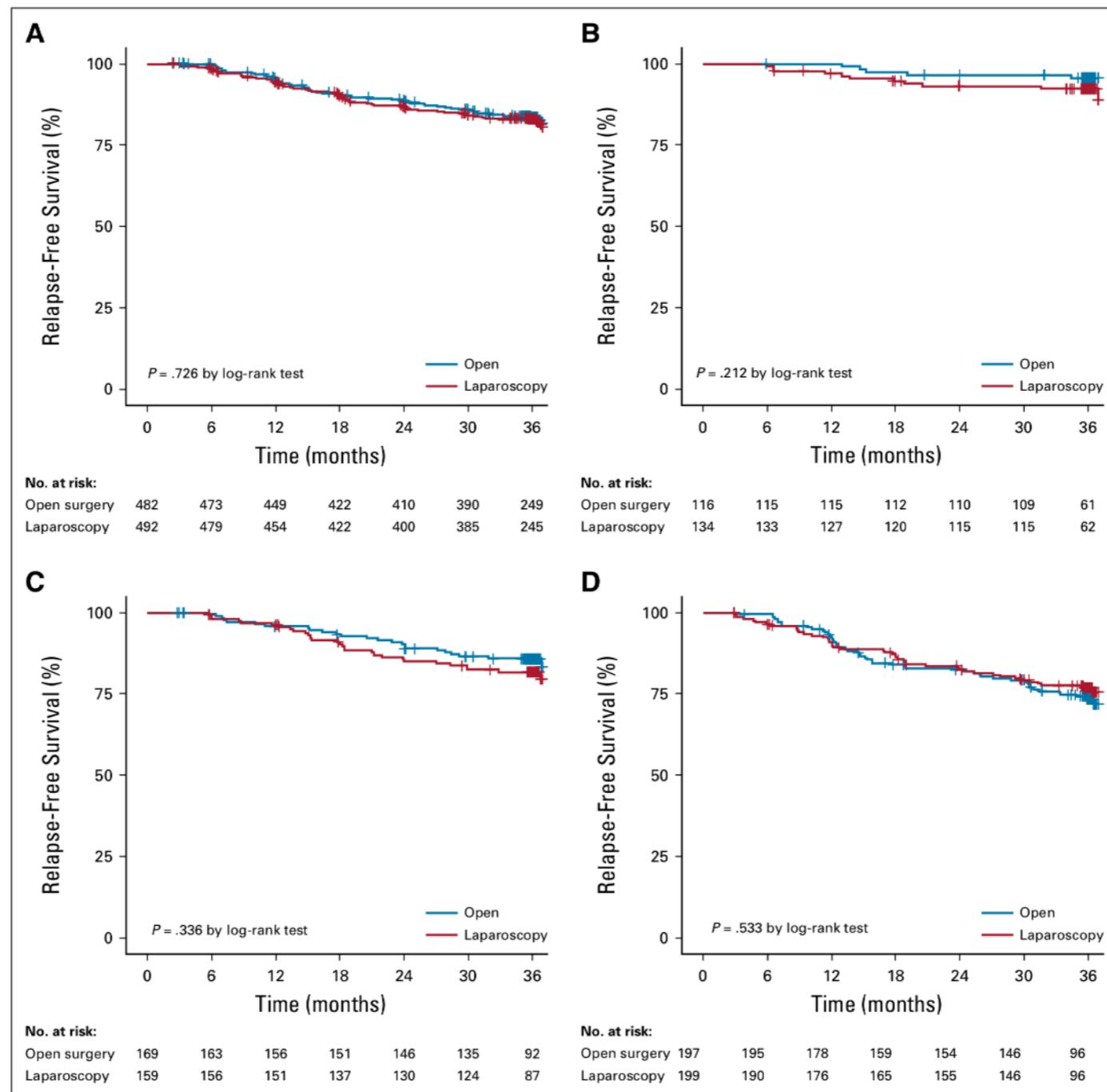
Distal

Laparoskopi



RCT

KLASS02

3y-RFS

80.3% LDG grup

81.3% ODG grup

AGC

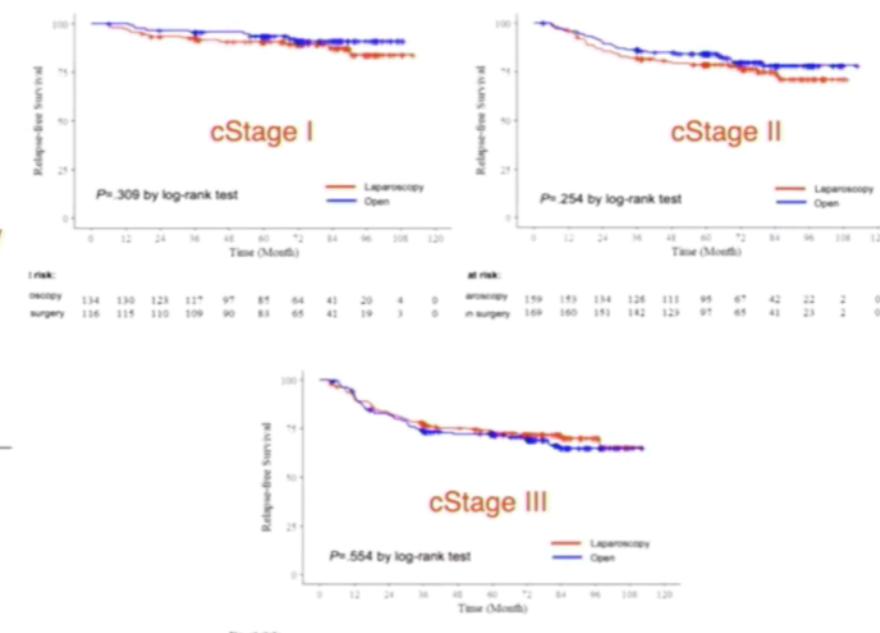
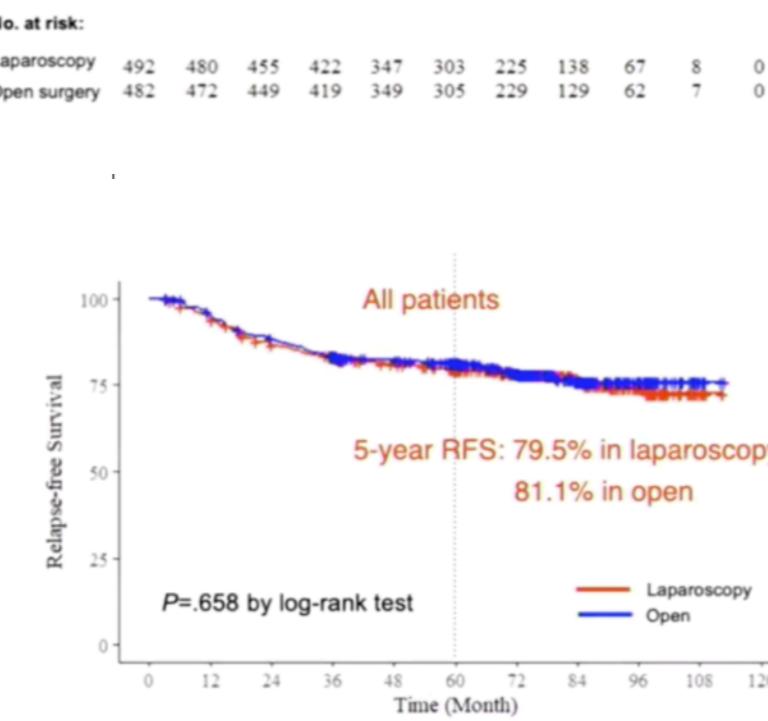
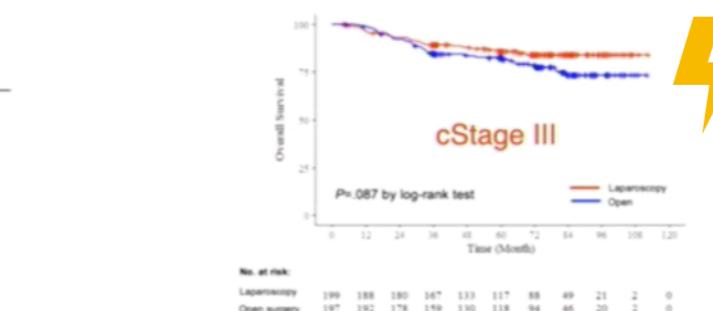
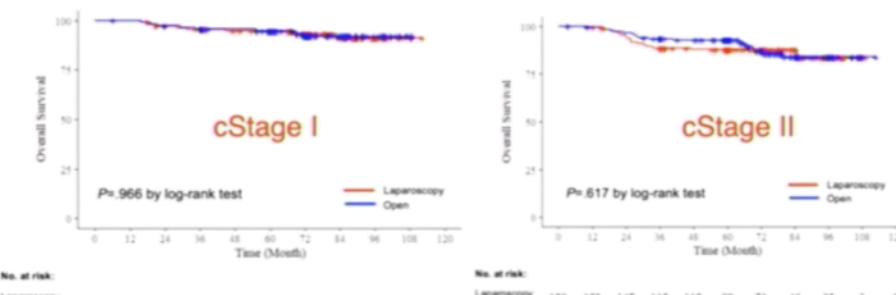
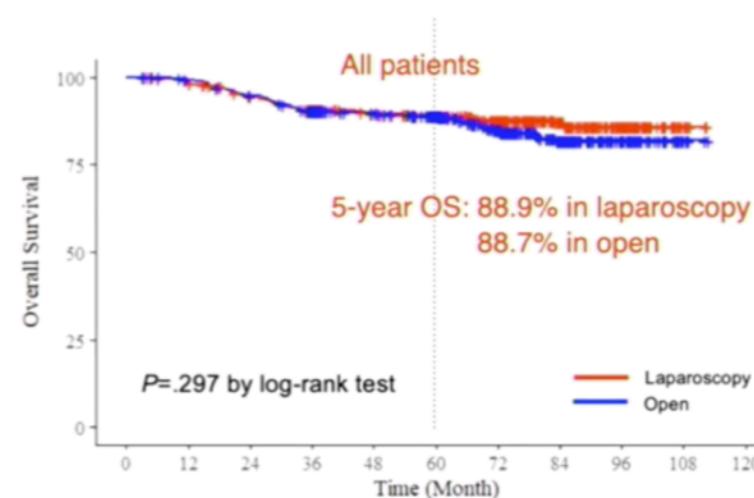
Distal

Laparoskopi



RCT

KLASS02



EGC**Total****Laparoskopi****RCT****KLASS03**

Morbidity 20.6% (33/160)

Mortality 0.6% (1/160)

Major complications 9.4% (15/160)

Reoperations 1.9% (3/160)

LTG performed by experienced surgeons showed **acceptable** postoperative morbidity and mortality for patients with clinical stage I gastric cancer.

JCOG1401

EJ Anastomosis leakage 2.5% (6/244)

Conversion 1.7%

Mortality 0

Katai H et al. Gastric Cancer 2019

CLASS02 (RCT)**FINDINGS**

Rates of combined morbidity and mortality were not significantly different among patients receiving laparoscopic vs open total gastrectomy



Rate difference, laparoscopic vs open total gastrectomy:
-1.1% (95% CI, -11.8% to 9.6%)

The results of the CLASS02 trial showed that the **safety** of LTG with lymphadenectomy by experienced surgeons for clinical stage I.

Hyung WJ et al. Gastric Cancer 2018

Liu F et al. JAMA Oncology 2020

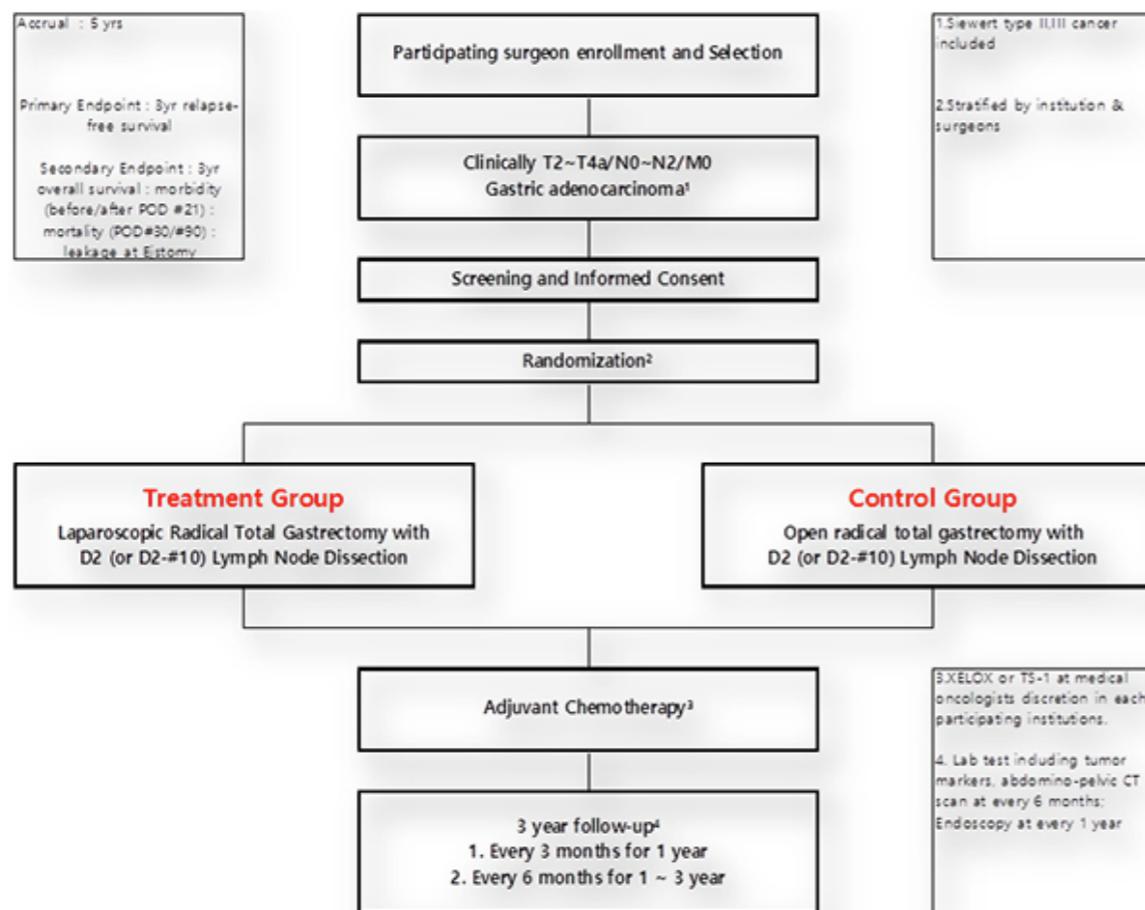
AGC**Total****Laparoskopi****No RCT**

KLASS06

Multicenter, Prospective, Phase III trial

Primary endpoint: 3 year relapse free survival

Estimated sample size - 772 patients



~772 hasta
Tarih: 2018-2027

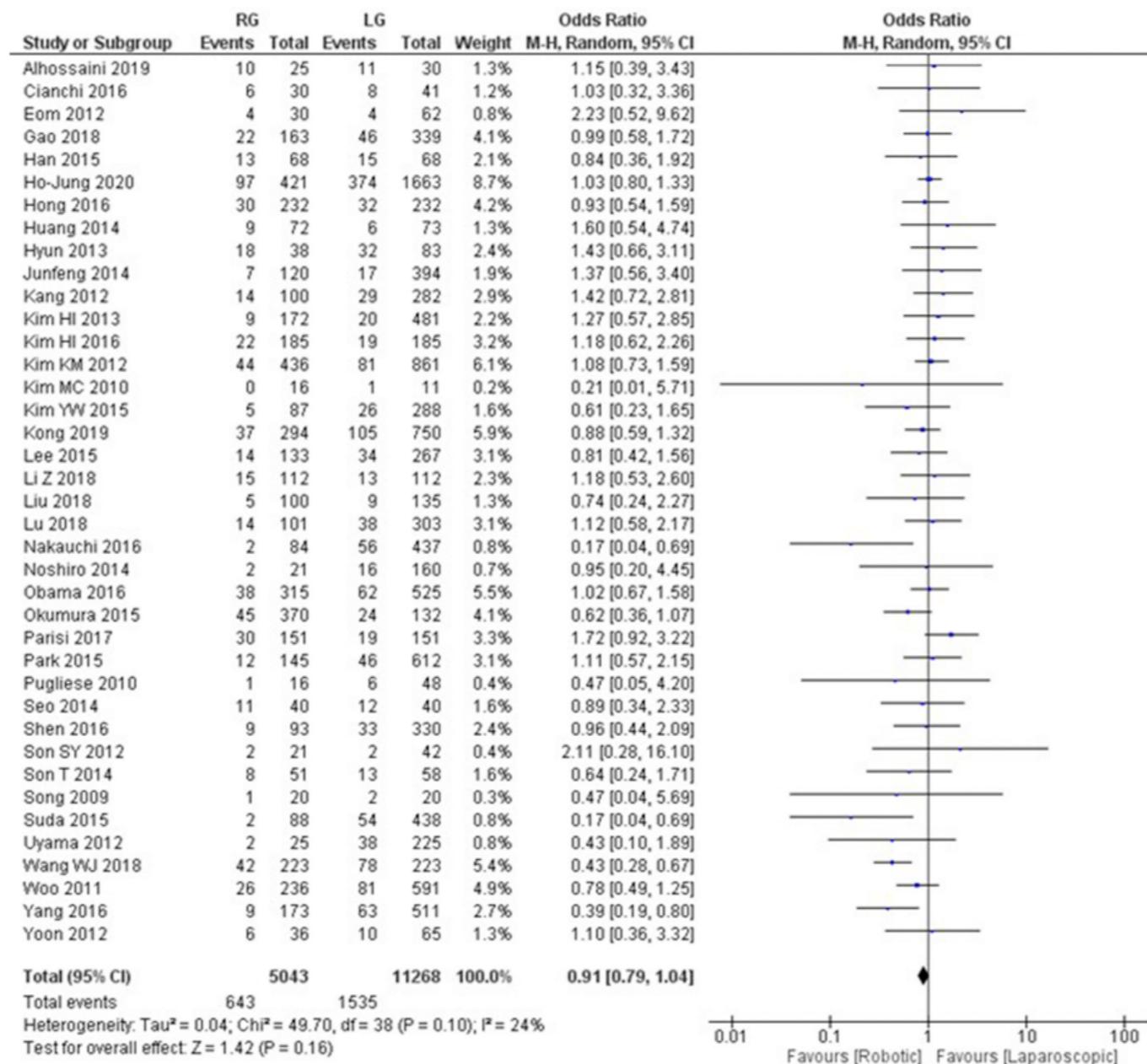


Fig. n.10. Overall complication.

higher **operating time** [MD 44.73, (95%CI 36.01, 53.45) p <0.00001]
less **intraoperative blood loss** [MD -18.24, (95%CI -25.21, 11.26) p <0.00001]
lower rate of **major surgical complication** [OR 0.66, (95%CI 0.49, 0.88) p =0.005]
increased number of **retrieved lymph nodes** [MD 1.84, (95%CI 0.84, 2.84) p =0.0003]

Robotik

2018-2020
Lap vs. Robotik - RCT
intra-abdominal infectious complications

No significant difference in the incidence of intra-abdominal infectious complications (per-protocol)

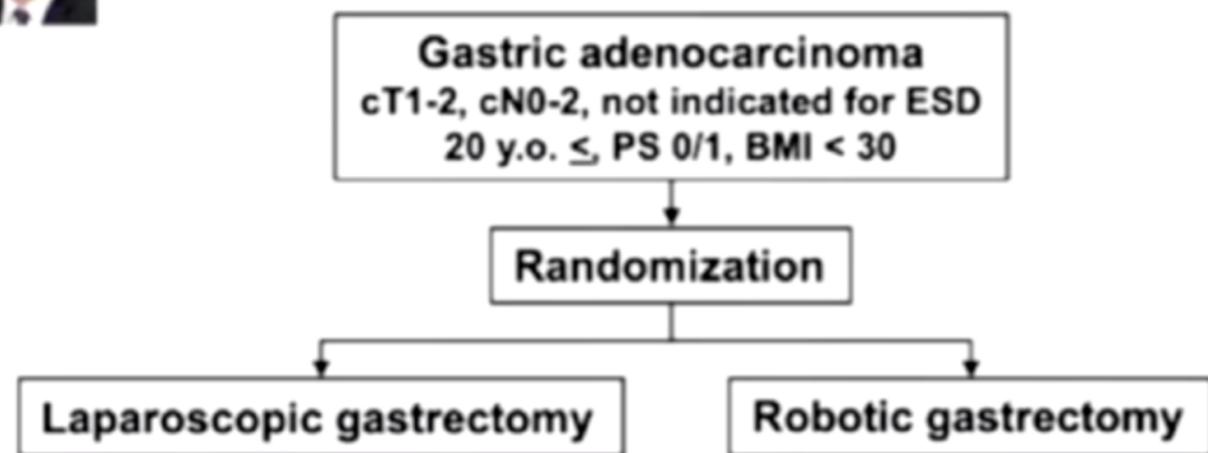
(10 of 117 [**8.5%**] in the LG group vs 7 of 113 [**6.2%**] in the RG group)

grade II or higher was significantly higher in the LG group (23 [19.7%]) than in the RG group (10 [8.8%]) ($P = .02$)

grade IIIa or higher significantly higher in the LG group (19 [16.2%]) than in the RG group (6 [5.3%]) ($P = .01$)



JCOG1907 (MONALISA)



Primary endpoint: Intraabdominal infectious complication (C-D Grade II or worse)
Secondary endpoints: OS, RFS, Morbidity, Mortality, Completion rate of protocol Tx, Early postoperative outcomes
Sample size: 1040 pts.

JCOG1907

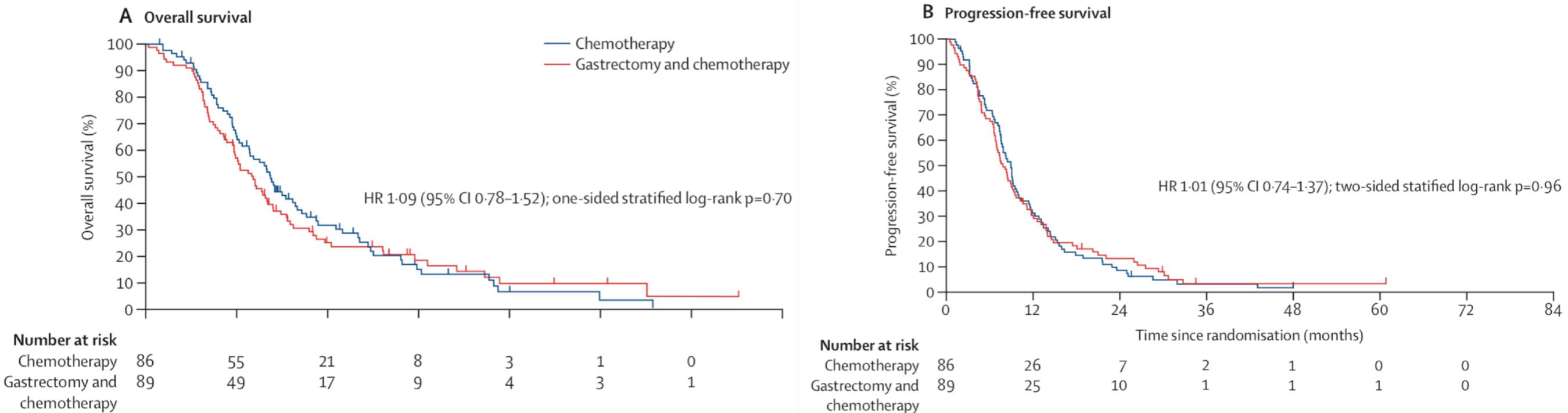
cT1-2N0-2 胃癌におけるロボット支援下胃切除術の腹腔鏡下胃切除術に対する
優越性を検証するランダム化比較試験実施計画書 ver. 1.1.0
Randomized controlled phase III trial to investigate superiority of
robot-assisted gastrectomy over laparoscopic gastrectomy for
clinical stage T1-2N0-2 Gastric Cancer patients
略称: MONA LISA study

グループ代表者: 寺島 雅典
静岡県立静岡がんセンター 胃外科

研究代表者: 寺島 雅典
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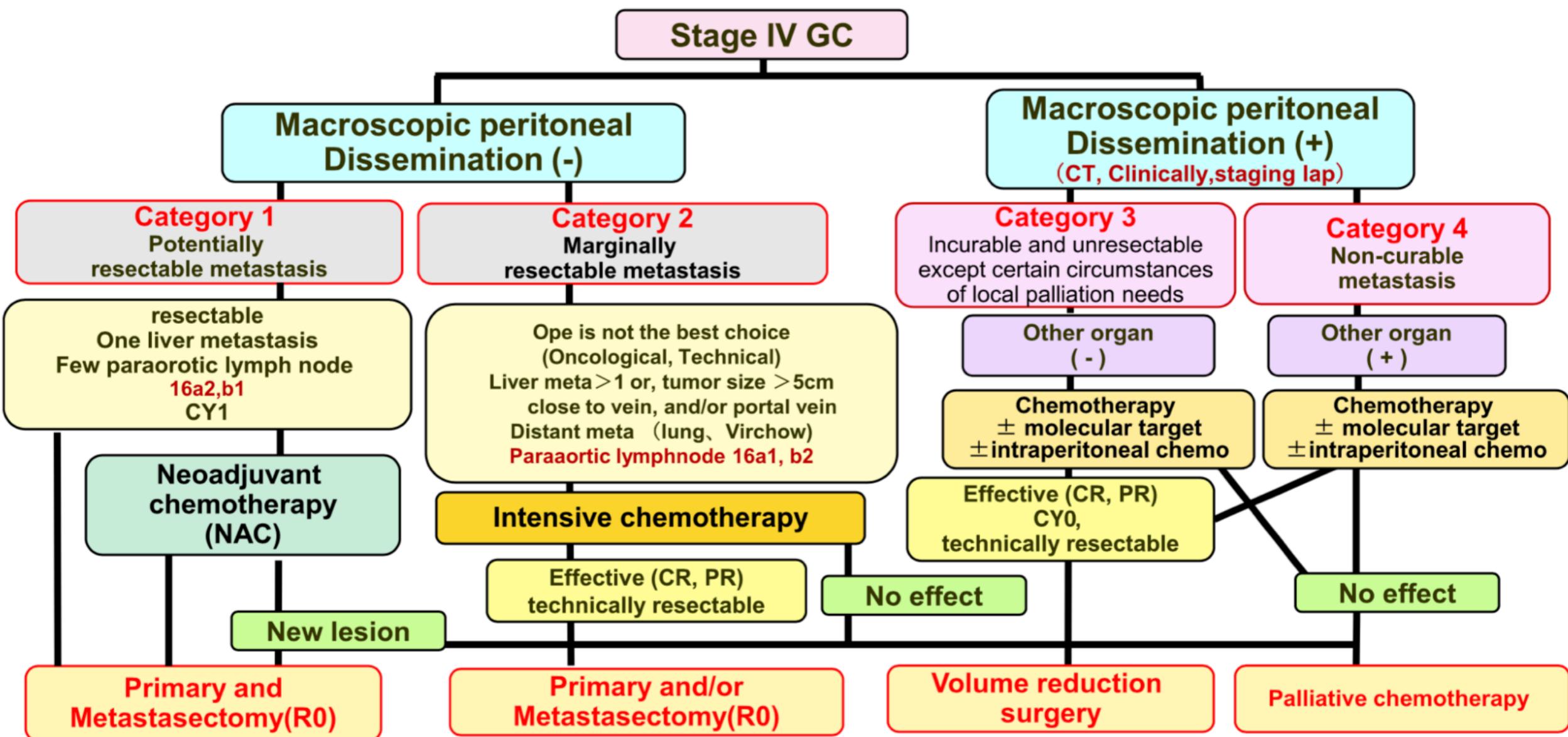
研究事務局: 幕内 梨恵
がん研究会有明病院 胃外科
〒135-8550 東京都江東区有明 3-8-31

Metastatik Mide Kanseri:



gastrectomy followed by chemotherapy **did not show any survival benefit** compared with chemotherapy alone in advanced gastric cancer with a single non-curable factor, gastrectomy cannot be justified for treatment of patients with these tumours.

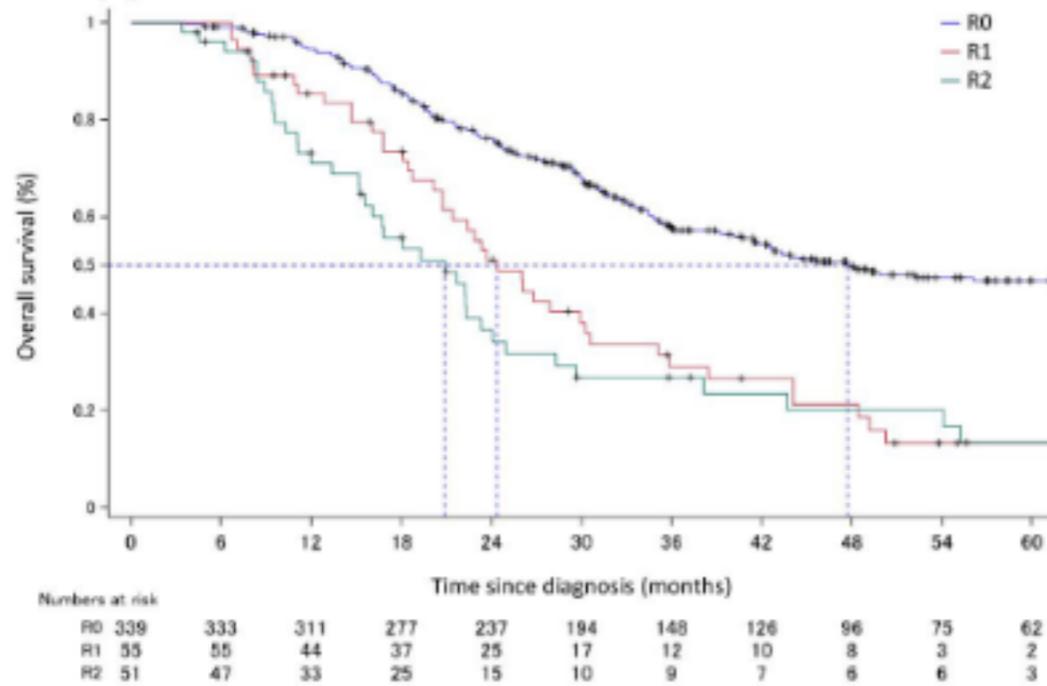
Metastatik Mide Kanseri:



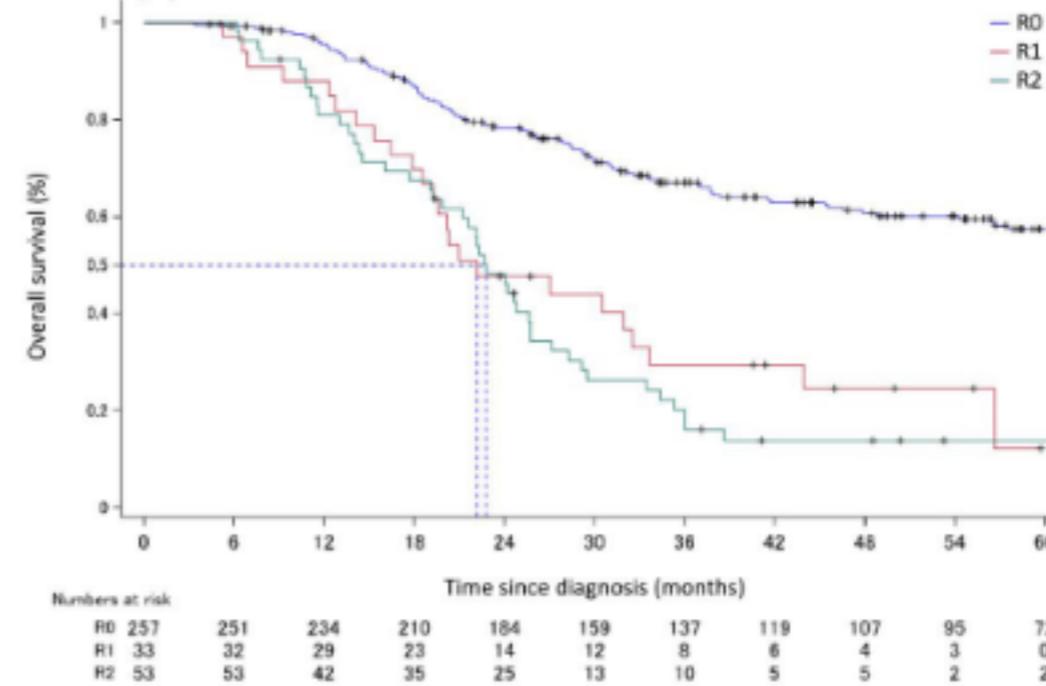
Metastatik Mide Kanseri:



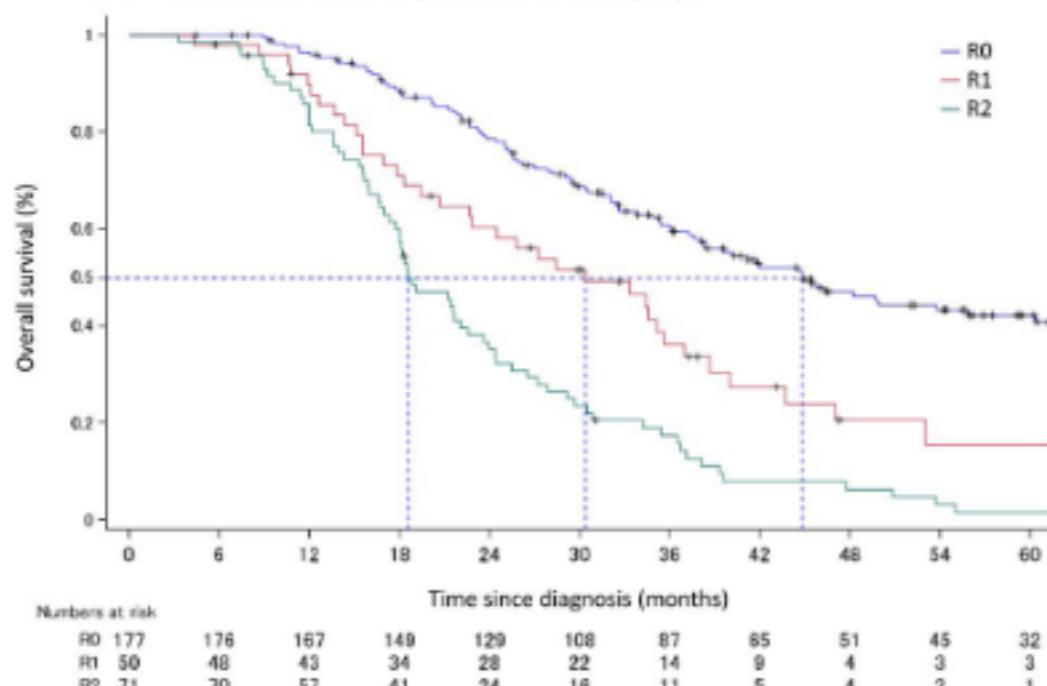
(D) Overall survival of patients of category 1



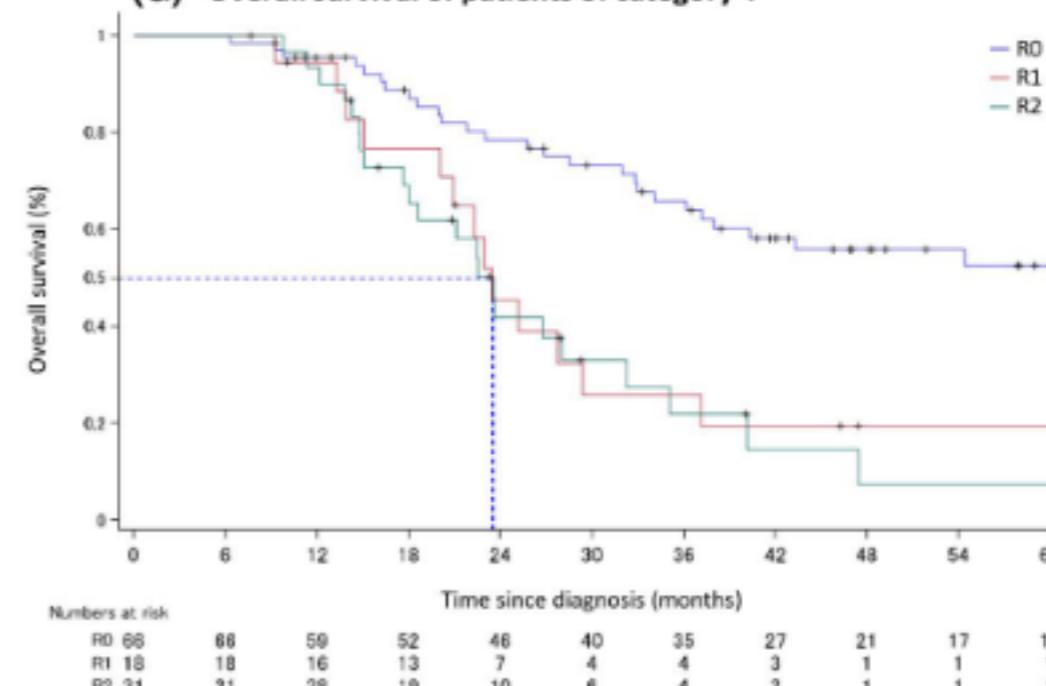
(E) Overall survival of patients of category 2



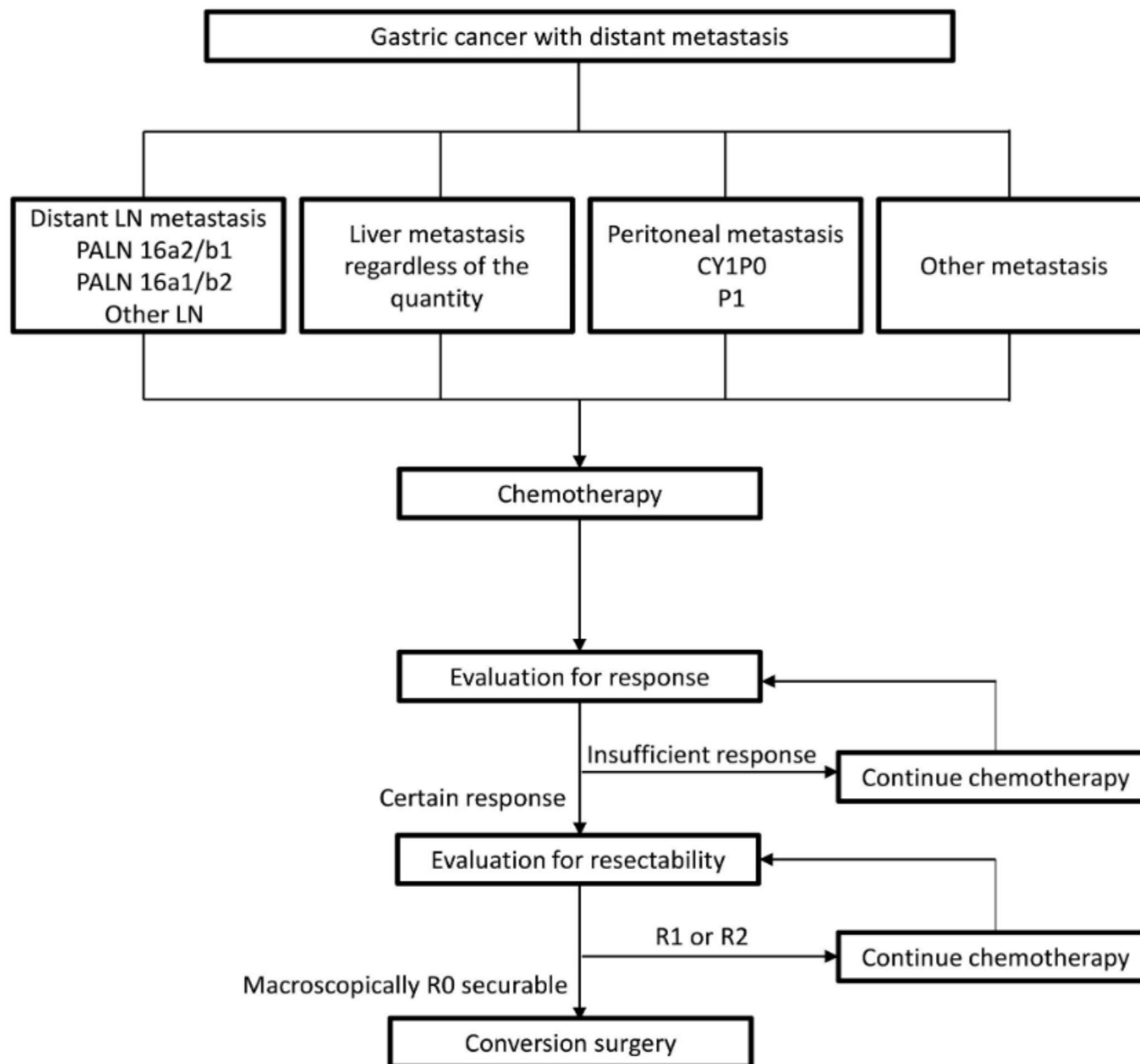
(F) Overall survival of patients of category 3



(G) Overall survival of patients of category 4

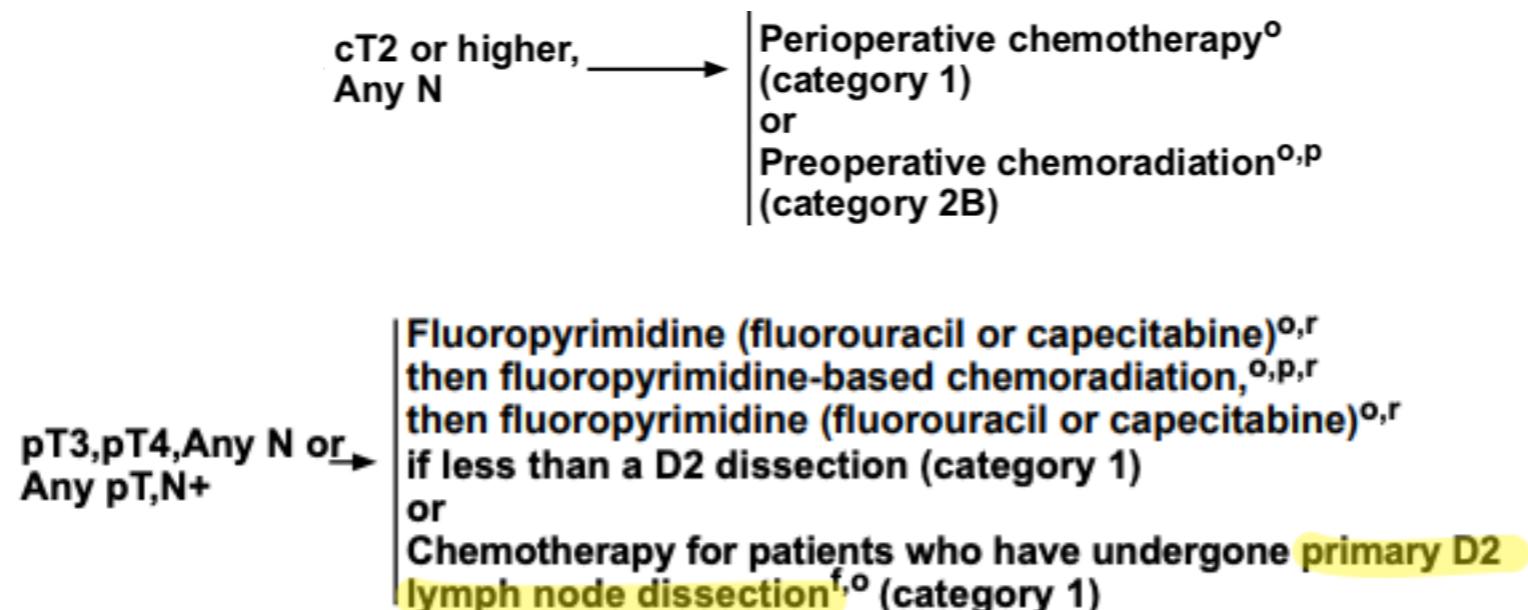


Metastatik Mide Kanseri:



Gastric Cancer

Version 2.2022 — January 11, 2022

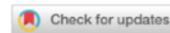


GAST-C Principles of Surgery

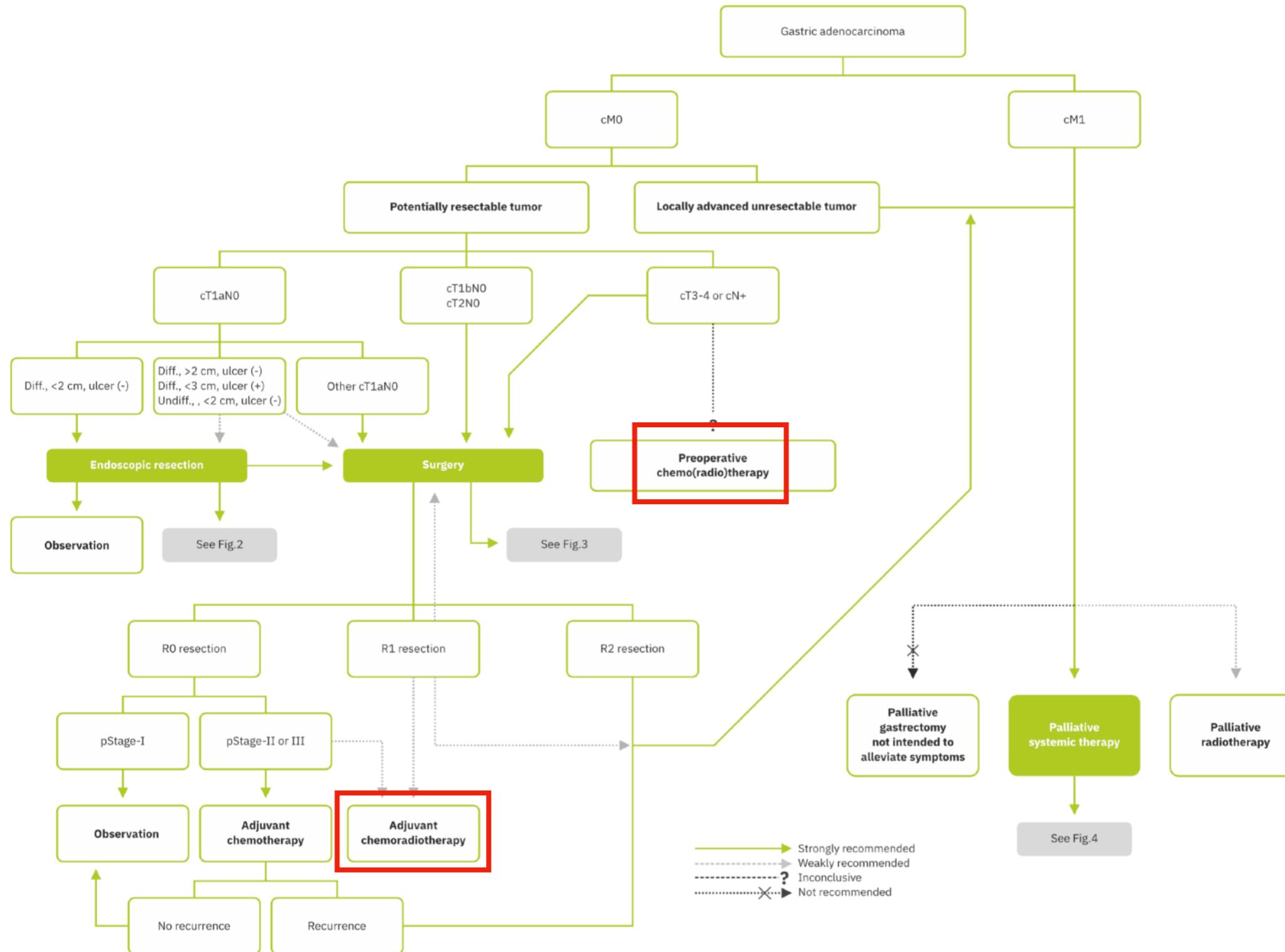
- Siewert classification: The term "center" was clarified as "epicenter".
- Resectable tumors, Bullets and sub-bullets revised:
 - ▶ T1b–T3: Adequate gastric resection to achieve negative microscopic margins (~~typically ≥4 cm from gross tumor~~).
 - ▶ "...at least 15 16 or greater lymph nodes."
 - ▶ D2 dissection is a D1 plus all the nodes along the left gastric artery, common hepatic artery, celiac artery, ~~splenic hilum~~, and splenic artery.
 - ▶ ~~Routine or prophylactic splenectomy is not required. Splenectomy is acceptable when the spleen or the hilum is involved Routine splenectomy is not indicated unless the spleen is involved or extensive hilar adenopathy is noted.~~

• Hyperthermic intraperitoneal chemotherapy (HIPEC) or laparoscopic HIPEC may be a therapeutic alternative for carefully selected stage IV patients in the setting of ongoing clinical trials and is under further clinical investigation.¹⁸⁻²⁰

Special Article



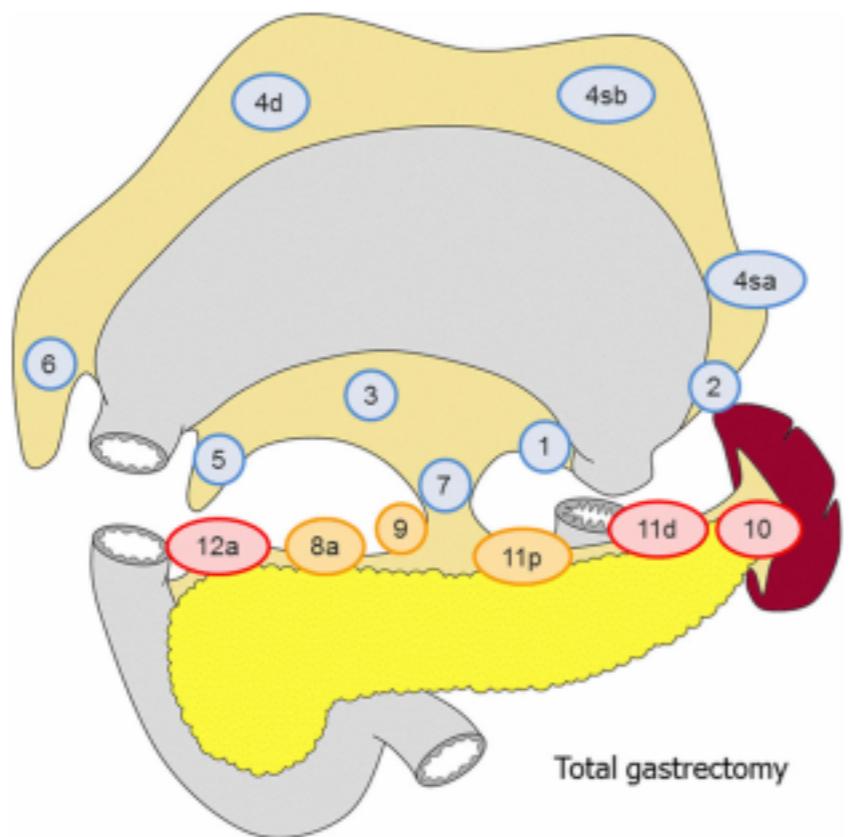
Korean Practice Guideline for Gastric Cancer 2018: an Evidence-based, Multi-disciplinary Approach



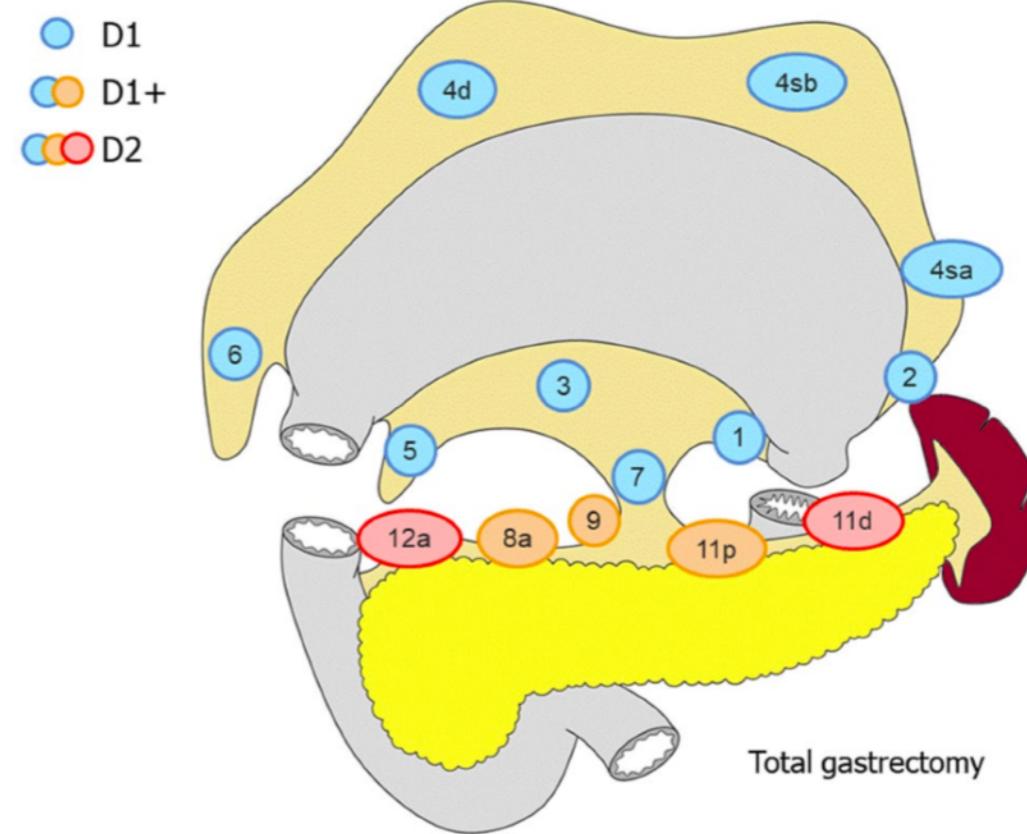
Japanese gastric cancer treatment guidelines 2018 (5th edition)

Japanese Gastric Cancer Association¹

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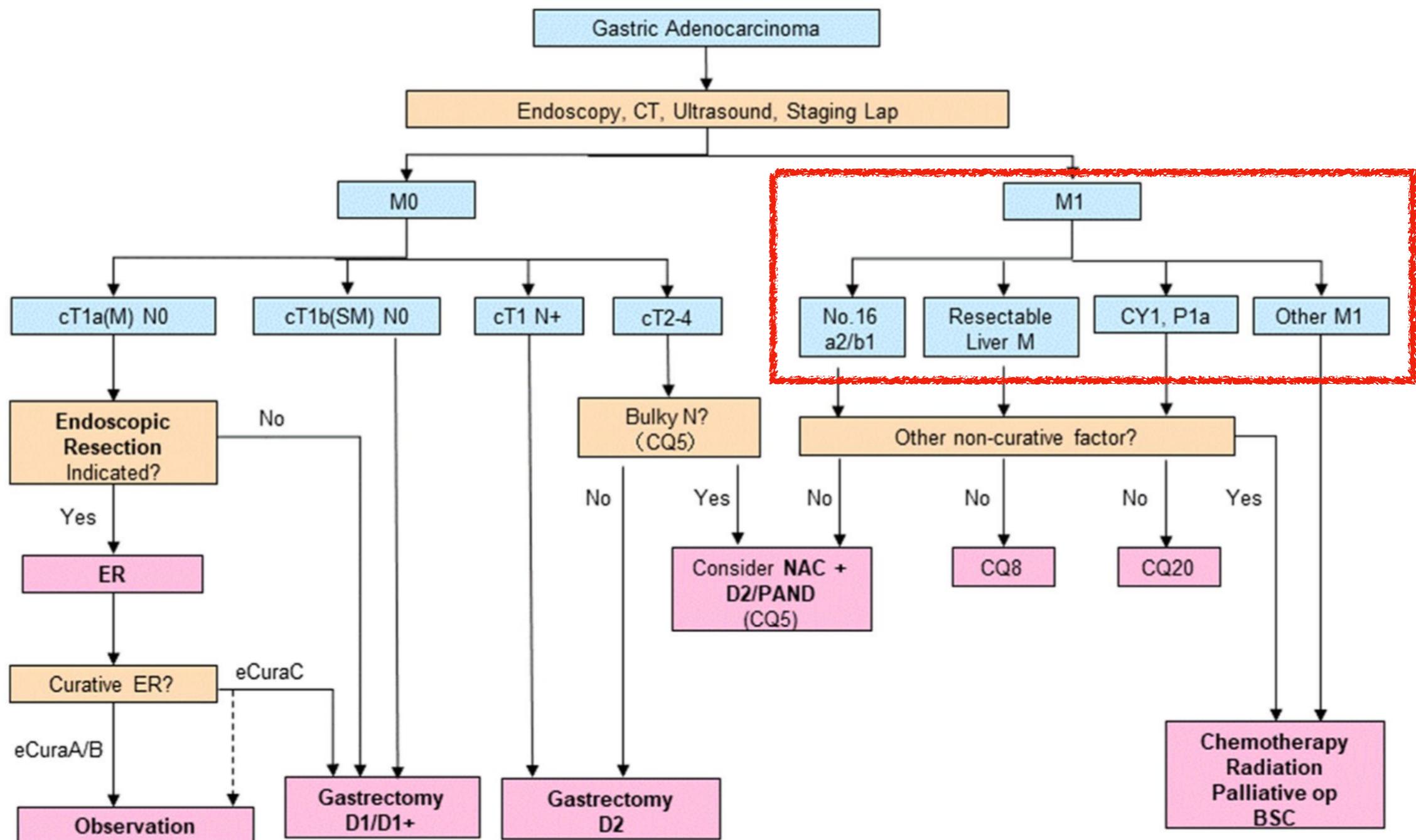


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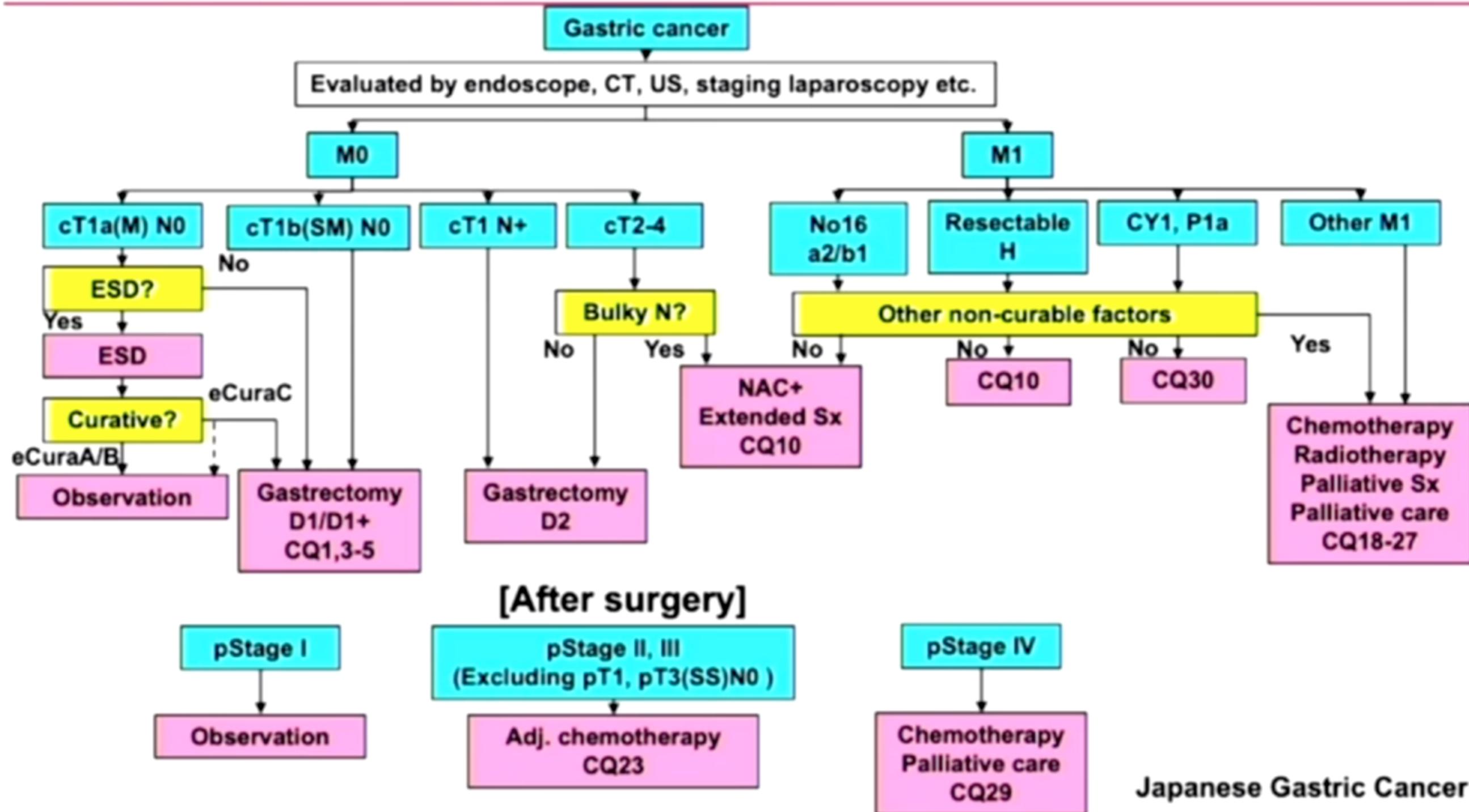
Japanese gastric cancer treatment guidelines 2018 (5th edition)



Japanese Gastric Cancer Treatment Guidelines 2021



Japanese Gastric Cancer Treatment Guidelines 2021



Japanese Gastric Cancer Treatment Guidelines 2021

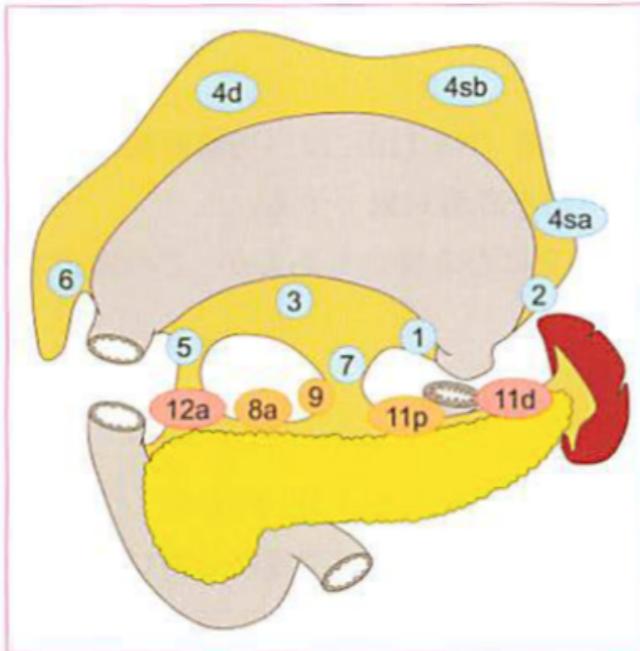


図2 胃全摘術の郭清

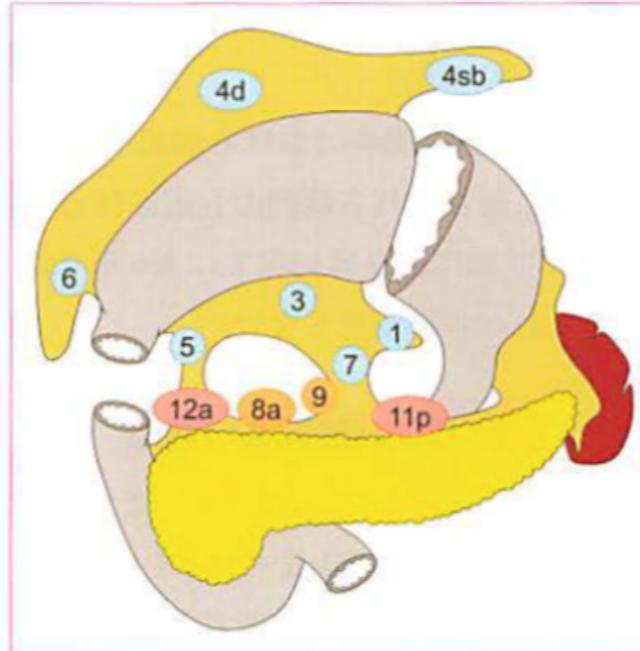


図3 幽門側胃切除術の郭清

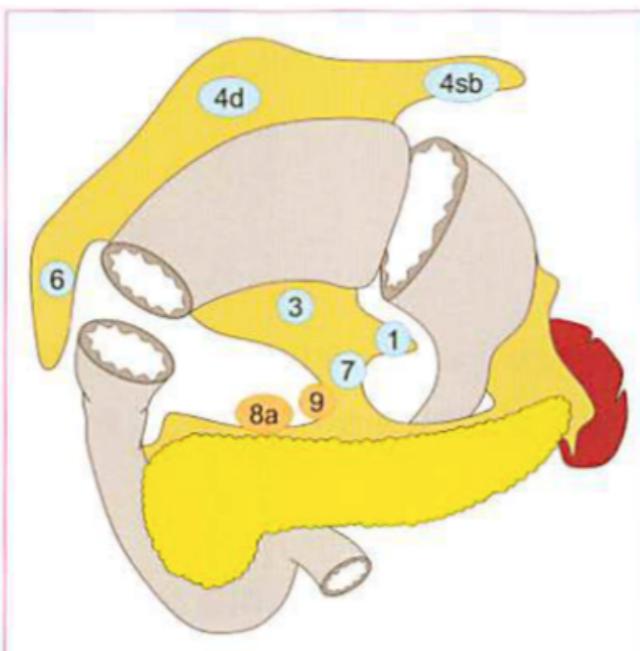


図4 幽門保存胃切除術の郭清

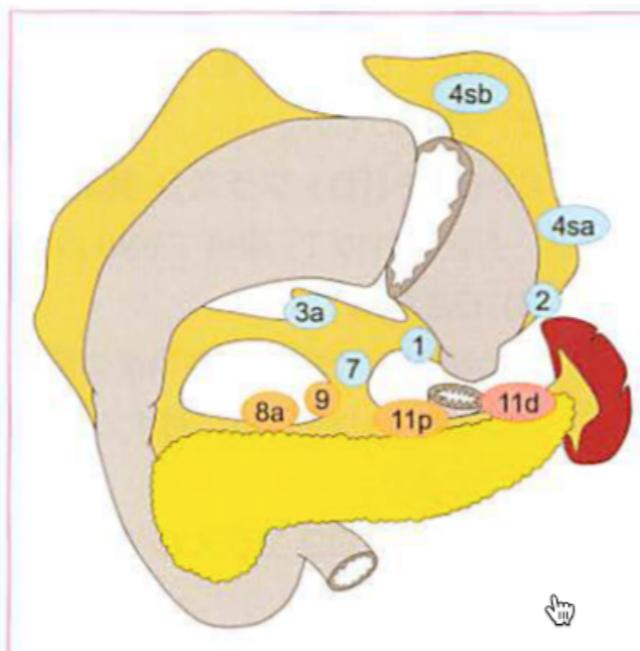


図5 噴門側胃切除術の郭清

1) 胃全摘術 (図2)

D0 : D1 に満たない郭清

D1 : No. 1~7

D1+ : D1+No. 8a, 9, 11p

D2 : D1+No. 8a, 9, 11p, 11d, 12a

食道浸潤癌では D2 には No. 19, 20, 110*を追加する。

2) 幽門側胃切除術 (図3)

D0 : D1 に満たない郭清

D1 : No. 1, 3, 4sb, 4d, 5, 6, 7

D1+ : D1+No. 8a, 9

D2 : D1+No. 8a, 9, 11p, 12a



3) 幽門保存胃切除術 (図4)

D0 : D1 に満たない郭清

D1 : No. 1, 3, 4sb, 4d, 6**, 7

D1+ : D1+No. 8a, 9

4) 噴門側胃切除術 (図5)

D0 : D1 に満たない郭清

D1 : No. 1, 2, 3a, 4sa, 4sb, 7

D1+ : D1+No. 8a, 9, 11p

D2 : D1+No. 8a, 9, 11p, 11d



Japanese Gastric Cancer Treatment Guidelines 2021

Laparoscopic distal gastrectomy is strongly recommended as a standard treatment
(Consensus rate 100% (8/8), Evidence level A)

Laparoscopic total or proximal gastrectomy is weakly recommended
(Consensus rate 100% (8/8), Evidence level C)

We cannot decide the recommendation of laparoscopic gastrectomy for cStage II, III gastric cancer
(Agreement rate 71.4% (5/7), Evidence level C)

Laparoscopic distal gastrectomy for cStage II, III gastric cancer is strongly recommended as a standard treatment.

Robotic gastrectomy is weakly recommended cStage I gastric cancer.

Omentectomy is weakly recommended for cT3-T4 gastric cancer
(Consensus rate 100% (8/8), Evidence level C)

It is strongly recommended not to perform splenectomy or splenic hilar lymph node dissection for tumors without greater curvature invasion.
(Consensus rate 100% (8/8), Evidence level A)

Splenectomy or splenic hilar lymph node dissection is weakly recommended for tumors with greater curvature invasion
(Consensus rate 87.5% (7/8), Evidence level C).

Japanese Gastric Cancer Treatment Guidelines 2021

In surgery for esophagogastric junction cancer deeper than cT2, lower mediastinal lymph node dissection is weakly recommended if the esophageal invasion length is more than 2 cm, and upper, middle, and lower mediastinal lymph node dissection is weakly recommended if the esophageal invasion length is more than 4 cm. (Consensus rate 100% (9/9), Evidence level C)

Surgical resection after preoperative chemotherapy is weakly recommended for a small number of **paraaortic lymph node metastases** confined to No. 16a2 / b1.

In addition, surgical resection is weakly recommended for **solitary liver metastasis** without other non-curative factors

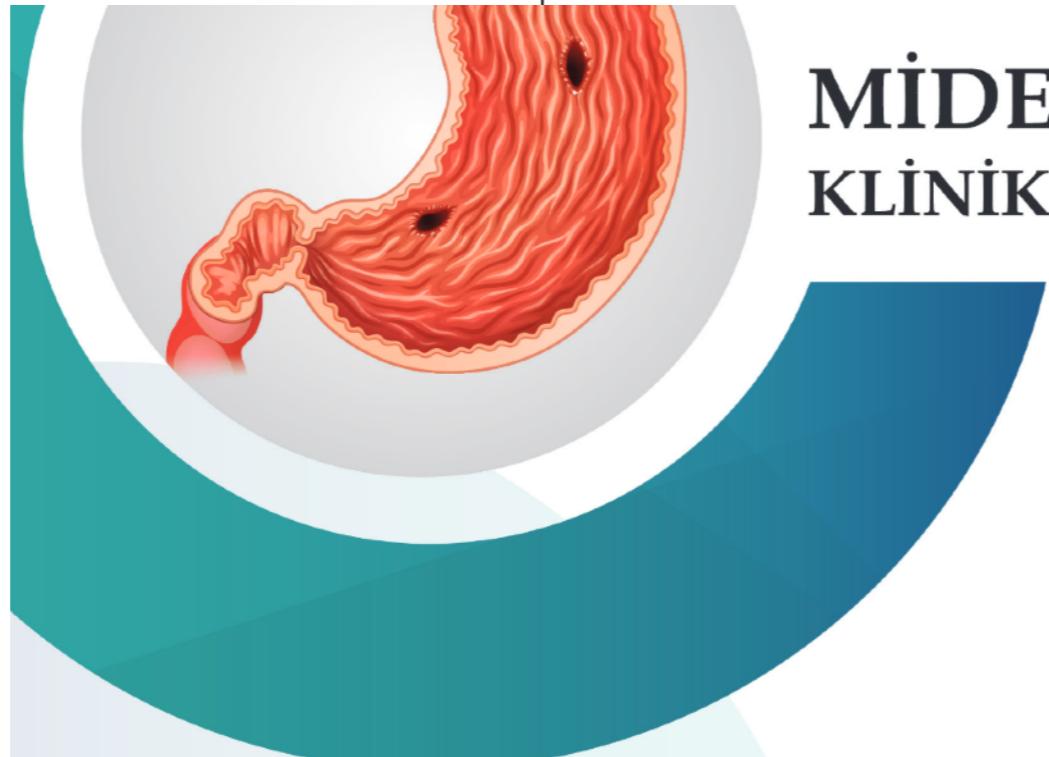
(Consensus rate 100% (7/7), Evidence level C)

Conversion surgery for patients with Stage IV gastric cancer is weakly recommended with the condition that chemotherapy provides a certain antitumor effect, the response is maintained, and R0 resection is possible

(Consensus rate 100% (7/7), Evidence level D)

No clear recommendation for neoadjuvant chemotherapy for curatively resectable advanced gastric and esophagogastric junctional cancer (Consensus rate 71.4 %, 5/7, Strength of evidence B).

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MİDE KANSERİ KLİNİK PROTOKOLÜ

Araştırma, Geliştirme ve Sağlık Teknolojisi Değerlendirme Dairesi Başkanlığı

ANKARA, 2020

Lenfadenektomi

- D2; standart
- D2+PALN; rutinde gereksiz.



Bursektomi

- rutinde gereksiz.



Splenektomi

- rutinde gereksiz.



Laparoskopi

- EGC-Distal



- EGC-Total



- AGC-Distal



- AGC-Total



Omentektomi

- 2031



EIPL

- Faydasız



Metastatik

Konversiyon tedavisi

