

ΤΙ ΝΕΩΤΕΡΟ ΣΤΗΝ ΟΓΚΟΛΟΓΙΚΗ ΧΕΙΡΟΥΡΓΙΚΗ ΤΟΥ ΑΝΩΤΕΡΟΥ ΠΕΠΤΙΚΟΥ

Θεοδώρου Δημήτριος
Καθηγητής Χειρουργικής
ΕΚΠΑ

Καρκίνος Οισοφάγου

Review Article

Current status of esophageal cancer treatment

Tania Triantafyllou¹, Bas P L Wijnhoven²

¹Department of Surgery, Hippocraton General Hospital of Athens, National and Kapodistrian University of Athens, Athens 11527, Greece;

²Department of Surgery, Erasmus University Medical Center, Rotterdam 3000, the Netherlands

Correspondence to: Bas P L Wijnhoven. Department of Surgery, Erasmus University Medical Center, Erasmus MC, PO Box 2040, Rotterdam 3000, the Netherlands. Email: b.wijnhoven@erasmusmc.nl

Ενδοσκοπική εκτομή

- ▣ T1a λεμφαδενική μετάσταση 2%
- ▣ T1b λεμφαδενική μετάσταση 30% (5-51%)

Ενδοσκοπική εκτομή

- ▣ Μέγεθος > 30 χιλ
- ▣ Βάθος διήθησης sm3
- ▣ Χαμηλή διαφοροποίηση
- ▣ Λεμφαγγειακή διήθηση

Ενδοσκοπική εκτομή

- ▣ Χειρουργείο με λεμφαδενικό καθαρισμό

- ▣ Συμπληρωματική ΧΑ θεραπεία →

14% τοπική υποτροπή salvage εκτομή

27% απόμακρες μεταστάσεις

Ενδοσκοπική εκτομή

- ▣ Διαφορές πενταετούς μη επαρκώς μελετημένες

Ενδοσκοπική εκτομή

Table 1 International guidelines on endoscopic and surgical treatment of early esophageal cancer

Tumor stage	Japan (9)	USA (8,22,23)	Europe (7,24)
T1a-m1/2	ER†	AC: ER‡; SCC: ER‡	AC: ER§; SCC: ER§
T1a-m3	ER/surgery††/ER+CRT†††	AC: ER‡; SCC: ER‡	AC: ER§; SCC: ER§§
T1b-sm1	Surgery††/CRT	AC: ER‡; SCC: ER‡	AC: ER§§; SCC: ER§§
T1b-sm2/3 SCC/AC	Surgery††/CRT	Surgery††/CRT	Surgery††/CRT§§§

m, mucosa; m1, limited to the epithelium; m2, invasion of the lamina propria mucosae; m3, invasion of the muscularis mucosae; sm, submucosa; SCC, squamous cell carcinoma; AC, adenocarcinoma; ER, endoscopic resection; CRT, chemoradiotherapy; †, if $\geq 3/4$ th to complete encircling of the circumference: additional chemo(radio)therapy; ††, evaluate patient's surgical tolerability; †††, when vascular invasion presents; ‡, absolute indication when well differentiated (G1/2), no evidence of lymph (L0) or vascular invasion (V0); ‡‡, relative indication, only in selected cases (high risk of lymph node metastases); §, absolute indication when L0-V0; §§, relative indication when G1/2, depth of invasion ≤ 200 μ m (SCC) or 500 μ m (AC), L0, V0, no ulceration (multidisciplinary discussion); §§§, further treatment after endoscopic resection when: $\geq sm2 / >200$ μ m/poorly differentiated/lymphatic invasion (L+)/vascular invasion (V+)/positive vertical margins.

Έκταση λεμφαδενικού καθαρισμού

Table 2 List of landmark randomized controlled trials (RCTs) on perioperative strategies in multimodal treatment of esophageal cancer

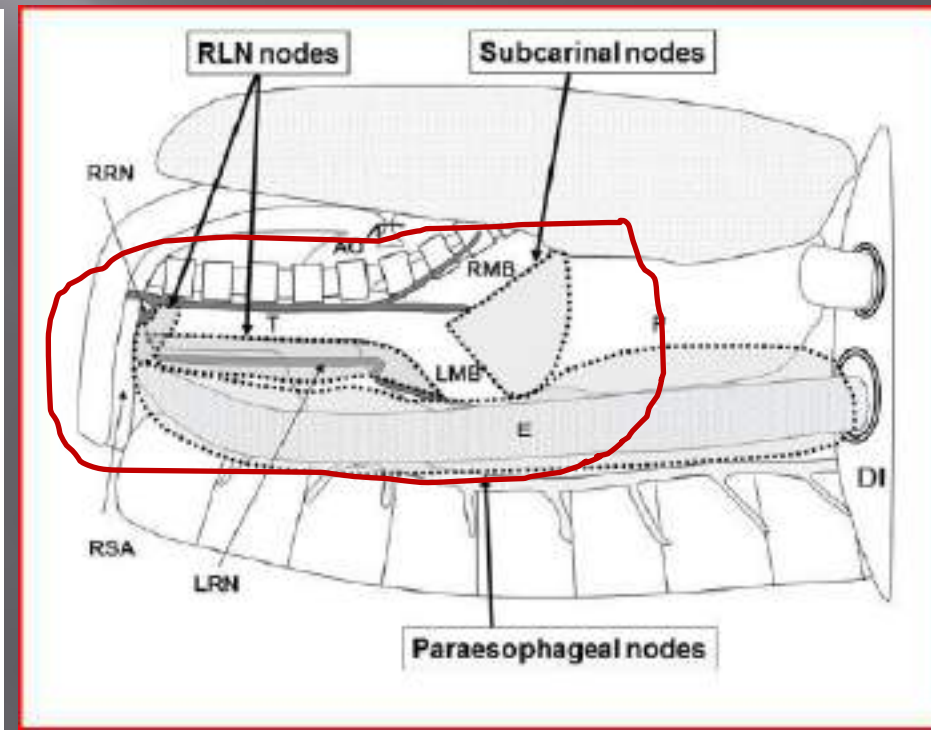
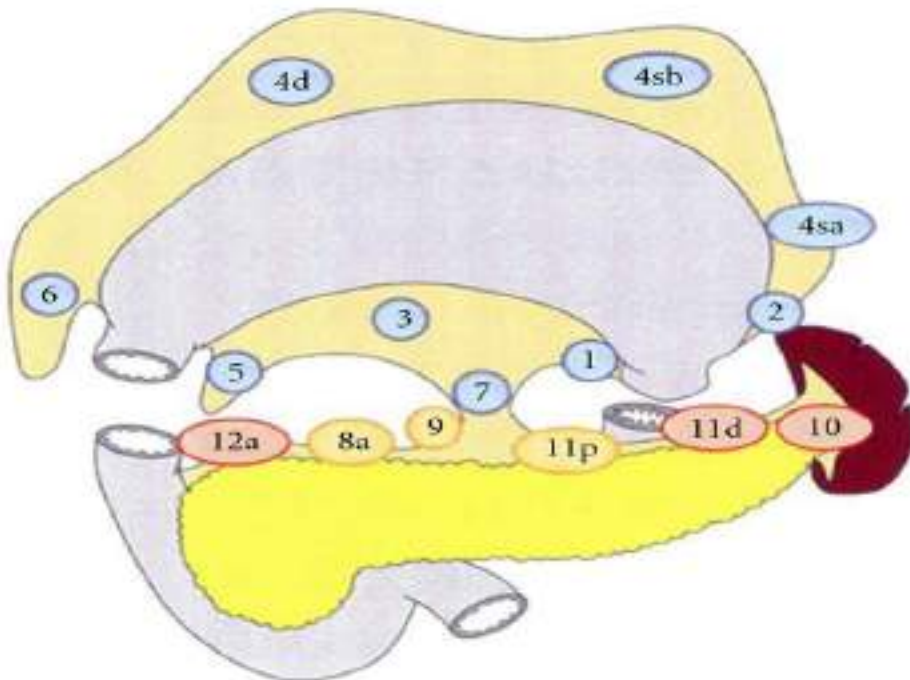
RCTs	Publication of design/results	Country	Status	Type	Therapeutic arms
JCOG9204 (56)	2003	Japan	Completed	SGC	Adjuvant chemotherapy vs. Surgery alone
MAGIC (54)	2006	UK	Completed	Gastric AG	Perioperative 3 cycles epirubicin, cisplatin, 5-FU vs. Surgery alone
CEO2 (38)	2009	UK	Completed	AG+SGC	Neoadjuvant 2 cycles cisplatin, 5-FU vs. Surgery alone
FNCLCG/FFCD (53)	2011	Germany	Completed	Esophageal + Gastric AG	Neoadjuvant 2-3 cycles of cisplatin, 5-FU vs. Surgery alone
Burmeister et al. (46)	2011	Australia	Completed	AG	Neoadjuvant cisplatin, 5-FU vs. Neoadjuvant cisplatin, 5-FU, RT
JCOG9917 (40)	2012	Japan	Completed	SGC	Neoadjuvant cisplatin, 5-FU vs. Adjuvant cisplatin, 5-FU
JCOG1189 (48)	2013	Japan	Ongoing	SGC	Neoadjuvant cisplatin, 5-FU vs. Neoadjuvant docetaxel vs. Neoadjuvant cisplatin, 5-FU, RT
FFCD9901 (39)	2014	Germany	Completed	AG+SGC	Neoadjuvant 2 cycles FU, cisplatin, RT vs. Surgery alone
CROSS (37)	2015	The Netherlands	Completed	AG+SGC	Neoadjuvant 5 cycles carboplatin, paclitaxel, RT vs. Surgery alone
Zhao et al. (50)	2015	China	Completed	SGC	Neoadjuvant 2 cycles paclitaxel, cisplatin, 5-FU (PCF) plus adjuvant 2 cycles PCF vs. Neoadjuvant 2 cycles PCF
ESOP-EG (52)	2016	Germany	Ongoing	AG	FLOT vs. CROSS
PROTECT-1402 (54)	2016	Germany	Ongoing	AG+SGC	Neoadjuvant paclitaxel, carboplatin, RT vs. Neoadjuvant FU, oxaliplatin, lornoxic acid (FOLFDOC)
POET (47)	2017	Germany	Closed Early	AG	Neoadjuvant FU, cisplatin vs. Neoadjuvant FU, cisplatin, RT
CEO5 (51)	2017	UK	Completed	AG	Neoadjuvant 4 cycles epirubicin, cisplatin, capecitabine vs. Neoadjuvant 3 cycles cisplatin, FU
Nco-AEGIS (63)	2017	IOCRS	Results awaited	AG	MAGIC vs. CROSS
NEOCRTEC5010 (52)	2018	China	Completed	SGC	Neoadjuvant 2 cycles vincristine, cisplatin, RT vs. Surgery alone
Guo et al. (61)	2018	China	Ongoing	SGC	Adjuvant 3 cycles paclitaxel, cisplatin vs. Adjuvant RT vs. Surgery alone
FLOT4 (52)	2019	Germany	Completed	Esophageal + Gastric AG	Neoadjuvant plus adjuvant FLOT/FLOT: 5-FU, leucovorin, oxaliplatin + docetaxel vs. Neoadjuvant plus adjuvant ECF/ECF
Nordica (62)	2019	Scandinavia	Completed	AG+SGC	Neoadjuvant cisplatin, 5-FU vs. cisplatin, 5-FU, RT

Έκταση λεμφαδενικού καθαρισμού

- ▣ Μείωση αριθμού λεμφαδένων
- ▣ Αποδεκτός αριθμός 15-23
- ▣ Ακόμη και σε πλήρη κλινική ανταπόκριση λεμφαδενικός καθαρισμός δυο πεδίων

Δυο Πεδίων : Κοιλιάς Μεσοθωρακίου

- ▣ Σταθμοί 1,2,3,7,8,9,11 κοιλιά
- ▣ Μέσοι και κατώτεροι μεσοθωρακικοί



Wait and see

- ▣ Πλήρης κλινική ανταπόκριση
- ▣ Πρόγραμμα παρακολούθησης PET, βαθιές βιοψίες ενδοσκοπικοί υπέρηχοι
- ▣ Salvage εκτομές
- ▣ Αποφυγή επέμβασης vs ογκολογική επίπτωση

Wait and see

VOLUME 32 • NUMBER 30 • OCTOBER 20 2014

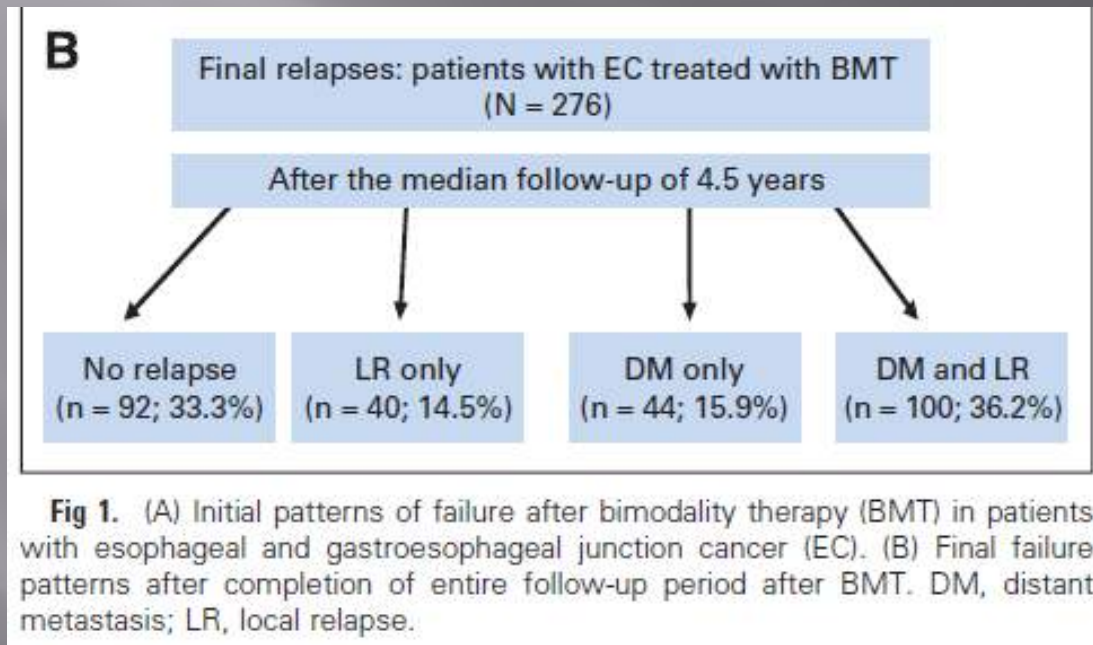
JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

Importance of Surveillance and Success of Salvage Strategies After Definitive Chemoradiation in Patients With Esophageal Cancer

Kazuki Sudo, Lianchun Xiao, Roopma Wadhwa, Hironori Shiozaki, Elena Elimova, Takashi Taketa, Mariela A. Blum, Jeffrey H. Lee, Manoop S. Bhutani, Brian Weston, William A. Ross, Ritsuko Komaki, David C. Rice, Stephen G. Swisher, Wayne L. Hofstetter, Dipen M. Maru, Heath D. Skinner, and Jaffer A. Ajani

Wait and see



Wait and see

STUDY PROTOCOL

Open Access



Neoadjuvant chemoradiotherapy plus surgery versus active surveillance for oesophageal cancer: a stepped-wedge cluster randomised trial

Bo Jan Noordman^{1*}, Bas P. L. Wijnhoven¹, Sjoerd M. Lagarde¹, Jurjen J. Boonstra², Peter Paul L. O. Coene³, Jan Willem T. Dekker⁴, Michael Doukas⁵, Ate van der Gaast⁶, Joos Heisterkamp⁷, Ewout A. Kouwenhoven⁸, Gard A. P. Nieuwenhuijzen⁹, Jean-Pierre E. N. Pierie¹⁰, Camiel Rosman¹¹, Johanna W. van Sandick¹², Maurice J. C. van der Sangen¹³, Meindert N. Sosef¹⁴, Manon C. W. Spaander¹⁵, Roelf Valkema¹⁶, Edwin S. van der Zaag¹⁷, Ewout W. Steyerberg¹⁸, J. Jan B. van Lanschot¹ and on behalf of the SANO-study group

Ελάχιστα επεμβατικές τεχνικές

- ▣ Λαπαροσκοπικές μέθοδοι
- ▣ Ρομποτική χειρουργική
- ▣ Πρωτόκολλα ταχείας ανάρρωσης

Ελάχιστα επεμβατικές τεχνικές

Table 3 List of landmark randomized controlled trials (RCTs) on minimally invasive esophagectomy

Trial	Country	Recruitment period	Surgical procedures compared		Number of patients		Primary endpoint
			Group A	Group B	Group A	Group B	
MIRO (96,99)	France	2009–2012	Hybrid; laparoscopic abdominal phase and right thoracotomy	Open	103	104	Major postoperative 30-day morbidity
TIME (98)	the Netherlands, Italy, Spain	2009–2011	Thoracoscopic and laparoscopic	Open	59	56	Postoperative pulmonary infection
MIOMIE (100)	Austria	2010–2011	Hybrid; laparoscopic abdominal phase and right thoracotomy	Open	14	12	Morbidity and 30-day mortality
ROMIO (101)	UK	2016– results awaited	Laparoscopically assisted/totally MIE	Open	203 (a.e.)	203 (a.e.)	Postoperative patient-reported physical function
RAMIE (105)	China	2017– ongoing	Robot-assisted MIE	Laparoscopy plus thoracoscopy	180 (a.e.)	180 (a.e.)	5-year OS
REVATE (106)	China	2018– ongoing	Robot-assisted esophagectomy	Hybrid thoracoscopy plus laparotomy or laparoscopy	95	95	LND quality assessment
ROBOT (102)	the Netherlands	2012–2016	Robot-assisted/thoracoscopic	Open	54	55	Overall postoperative complications

MIE, minimally invasive esophagectomy; a.e., as expected; OS, overall survival; LND, lymph node dissection.

Ελάχιστα επεμβατικές τεχνικές

Component	Summary	Grade	Recommendation
Preoperative			
Counseling	Independent predictor of ERAS success, multimodal counseling is recommended	2–	D
Carbohydrate loading	Optimal fasting: 6 hours for solids (with caution if dysphagia) and 2 hours for clear fluids	1+	A
	Oral and intravenous carbohydrate loading attenuates insulin resistance and hyperglycemia	1+	B
Nutrition	Nutrition should be optimized before surgery; evidence for immunonutrients is conflicting	2–	D
IMT	Specific IMT improves inspiratory function after esophagectomy but not outcome	1–	B
Hemoglobin	Anemia predisposes to blood transfusion, with subsequent greater mortality and morbidity	2–	C
	Oral ferrous sulfate is recommended for iron-deficiency anemia	1–	C
Operative			
Preemptive analgesia	Preemptive epidural, NSAIDs, and local anesthetics are effective	1++	A
	NSAIDs may predispose to leaks in colorectal surgery, so they are not recommended	2++	C
Minimally invasive	Equivalent oncological operation, fewer pulmonary complications, less blood loss, and shorter stay	1+	A
Fluid therapy	Preoperative dehydration should be avoided	1+	B
	GDT or “balanced” therapy is recommended intraoperatively	1–	C
	Postoperative fluid balance should be at most neutral		
Pyloric drainage	There is insufficient evidence to recommend routine drainage procedures		
Postoperative			
Chest drains	Use should be minimized; a single drain is as effective as 2 drains but less painful	1–	C
	Drains can be removed when draining <200 mL/day	1–	C
Conduit decompression	Decompression reduces respiratory complications	1–	B
Nutrition	Nutrition should be commenced as soon as possible after surgery	1++	A
	Enteral routes are recommended over parenteral routes	1–	B
Oral intake	The optimum timing of oral intake is unclear		
	Delaying intake by routine anastomotic imaging is not recommended	2–	C
Analgesia	Thoracic epidural	1++	A
	PVB has potential benefits but has yet to be definitively assessed in esophagectomy		
Urinary catheter	Urinary catheters predispose to infection and may delay discharge	3	D
	They can be removed before epidurals in those with normal uroflowmetry (10% recatheterization risk)	1–	C
Thromboprophylaxis	All patients should receive combined mechanical and pharmacological prophylaxis unless contraindicated, with pharmacological prophylaxis continued until POD31	1++	A
Mobilization	A structured regimen of early mobilization is recommended	4	D

ERAS indicates enhanced recovery after surgery; IMT, inspiratory muscle training; NSAIDs, nonsteroidal anti-inflammatory drugs; PVB, paravertebral block; POD31, postoperative day; GDT, goal-directed therapy.

Ελάχιστα επεμβατικές τεχνικές

REVIEW ARTICLE

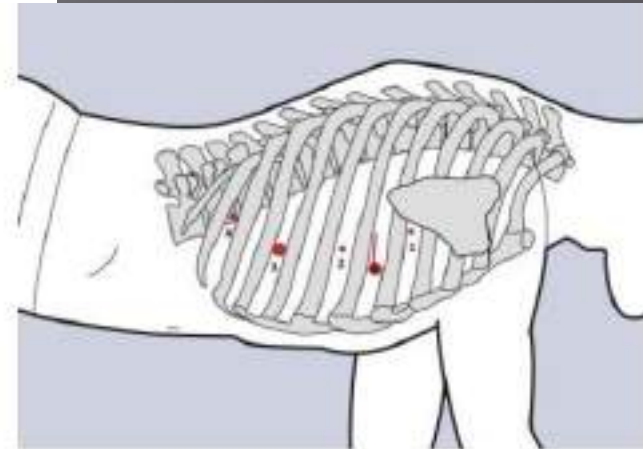
WILEY

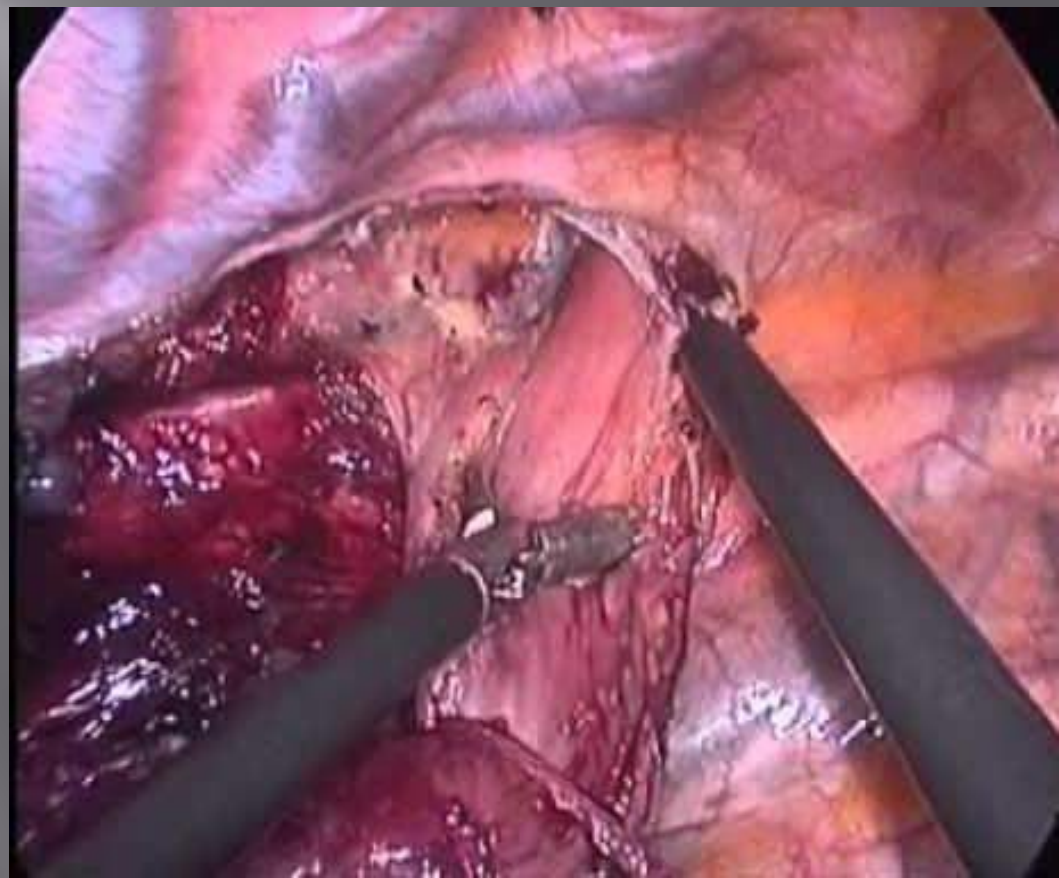
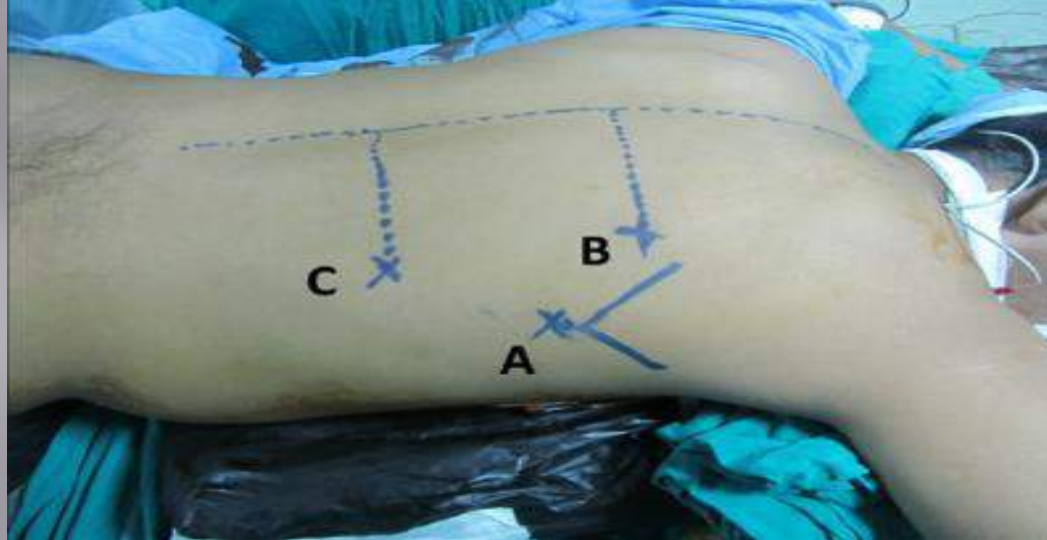
The International Journal of Medical Robotics
and Computer Assisted Surgery



Robotic-assisted minimally invasive esophagectomy versus the conventional minimally invasive one: A meta-analysis and systematic review

Dacheng Jin^{1,2,3,4†} | Liang Yao^{5,6†} | Jun Yu² | Rong Liu⁵ | Tiankang Guo³ |
Kehu Yang^{3,4} | Yunjiu Gou²





Καρκίνος Στομάχου

Προκαρκινικές καταστάσεις



*World Journal of
Gastrointestinal
Oncology*

Submit a Manuscript: <https://www.f6publishing.com>

World J Gastrointest Oncol 2019 September 15; 11(9): 665-678

DOI: [10.4251/wjgo.v11i9.665](https://doi.org/10.4251/wjgo.v11i9.665)

ISSN 1948-5204 (online)

REVIEW

Premalignant lesions and gastric cancer: Current understanding

Προκαρκινικές καταστάσεις

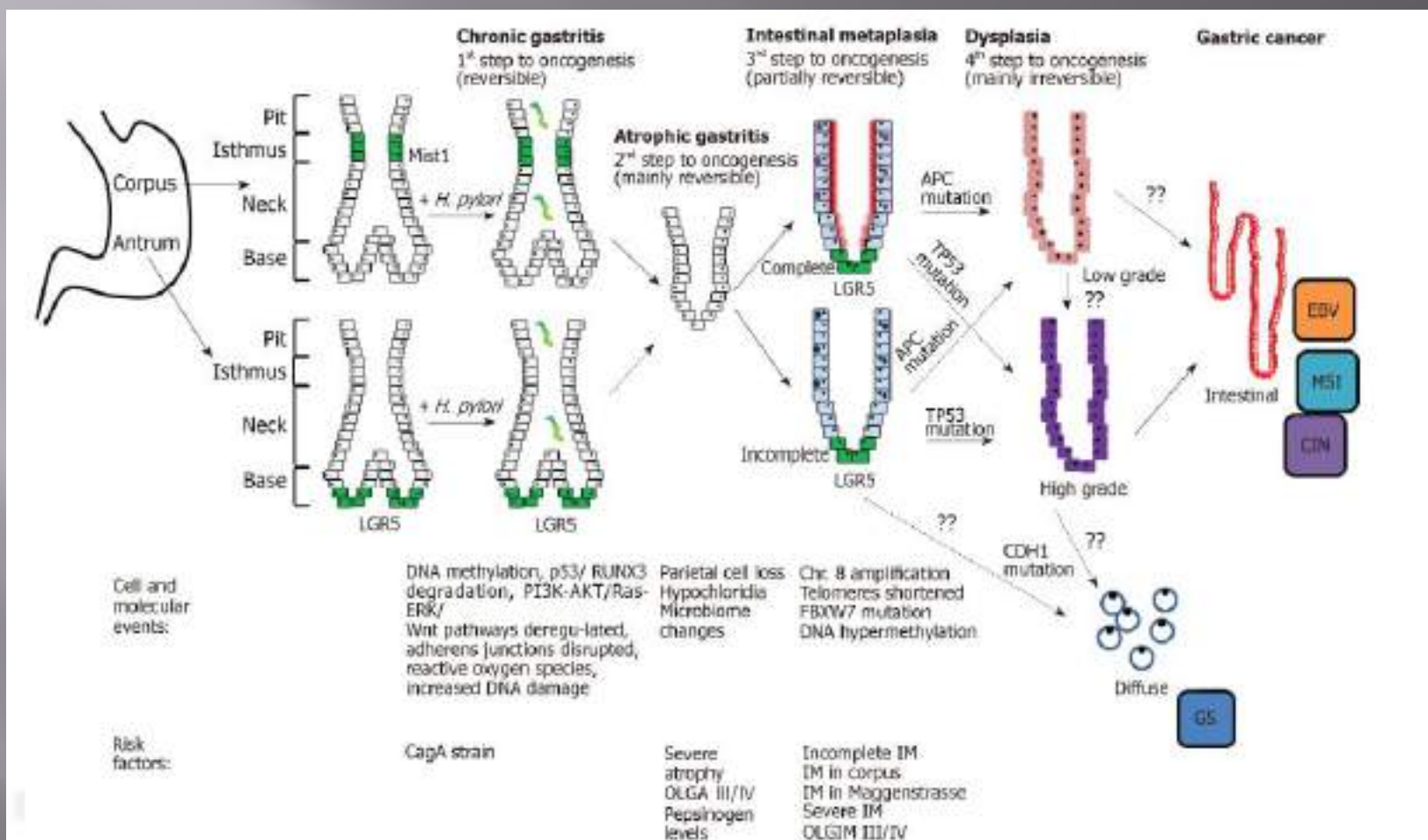


Figure 3 Summary of the cellular and molecular events associated with progression to cancer. *H. pylori*: *Helicobacter pylori*; EBV: Epstein Barr virus positive; MSI: Microsatellite unstable; CagA: Cytotoxin-associated gene A protein; IM: Intestinal metaplasia; GS: Genomically stable.

Προκαρκινικές καταστάσεις

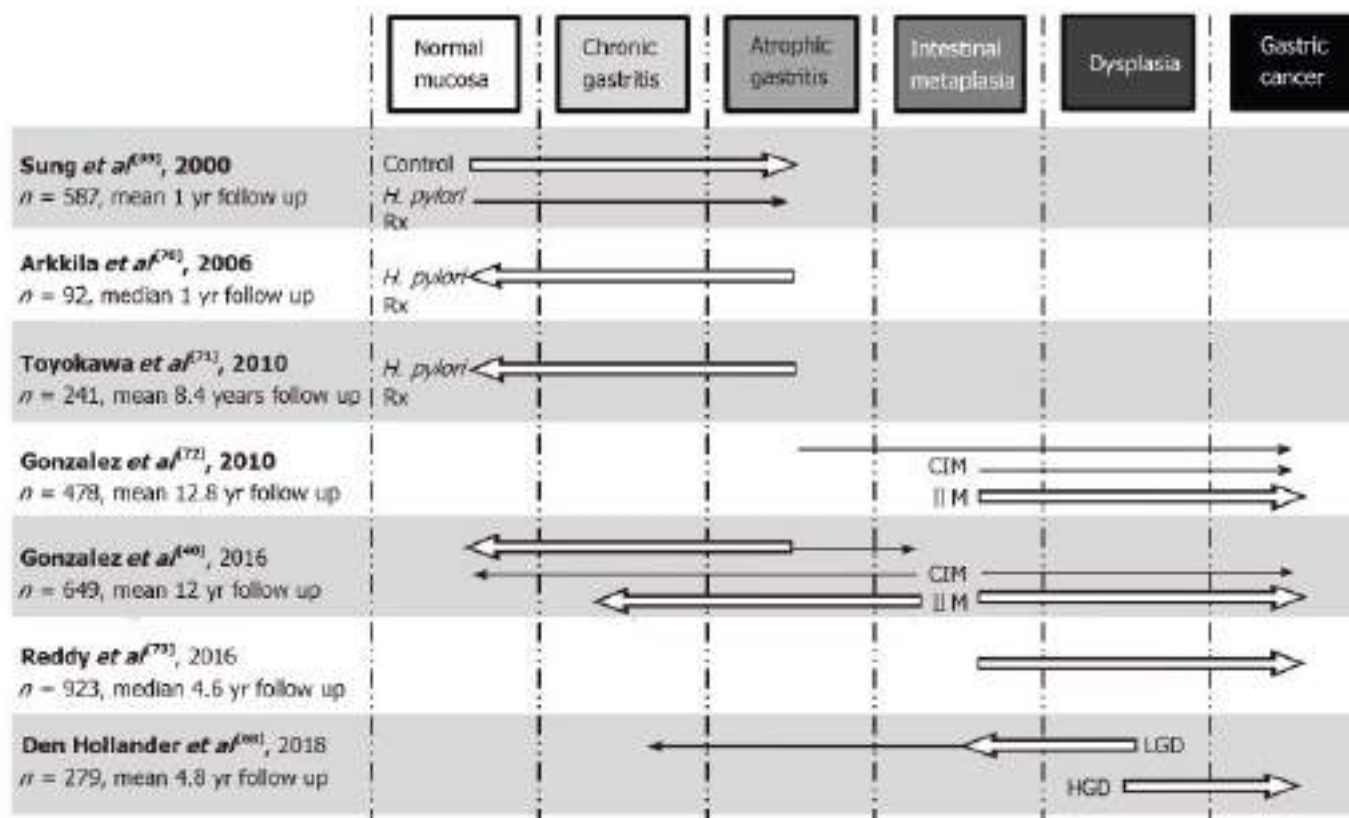


Figure 2 Graphical representation of selected large studies investigating progression/regression of premalignant gastric lesions across the stages of the Correa Cascade. Arrows represent the direction of effect findings, with the size of the arrow the strength of effect (not to scale between cohorts and only major findings of trials represented). *H. pylori* Rx: *Helicobacter pylori* antibiotic therapy; CIM: Complete IM; IIM: Incomplete IM; LGD: Low-grade dysplasia; HGD: High-grade dysplasia; IM: Intestinal metaplasia.

Προκαρκινικές καταστάσεις

In high-risk populations screening and surveillance has been successful in the early detection of GCs and improvements in 5-year survivals. However further work is required in low-risk populations to make strong evidence-based decisions regarding clinical screening or surveillance. In those known to have IM the risk factors discussed above should prompt the clinician to carefully consider surveillance including incomplete IM, dysplasia, extensive IM involving the corpus, male gender and those from high-risk ethnicities. The addition of molecular data such as TP53 mutation data, methylation patterns and chromosome 8 status would further improve risk-assessment algorithms, however larger population-based data is required for this to be accurate and practical.

Χειρουργικές Τεχνικές



National
Comprehensive
Cancer
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NCCN Guidelines Version 1.2013 Gastric Cancer

Resectable tumors---continued

- Gastric resection should include the regional lymphatics-- perigastric lymph nodes (D1) and those along the named vessels of the celiac axis (D2), with a goal of examining at least 15 or greater lymph nodes^{6,7,8}
 - ▶ Definition of D1 and D2 lymph node dissections
 - ◊ D1 dissection entails gastrectomy and the resection of both the greater and lesser omenta (which would include the lymph nodes along right and left cardiac, along lesser and greater curvature, suprapyloric along the right gastric artery, and infrapyloric area);
 - ◊ D2 dissection is a D1 plus all the nodes along the left gastric artery, common hepatic artery, celiac artery, splenic hilum and splenic artery.

Χειρουργικές τεχνικές

REVIEW ARTICLE

 **AGSurg** Annals of Gastroenterological Surgery  **WILEY**

Progress in the treatment of gastric cancer in Japan over the last 50 years

Mitsuru Sasako^{1,2} 

Χειρουργικές Τεχνικές

Study number	Phase	Sample size	Clinical question	Results
JCOG9501	III	520	Superiority of PAND	Negative
JCOG9502	III	265	Superiority of left thoracotomy for EGJ tumors	Negative
JCOG0110	III	500	Non-inferiority of spleen preservation	Positive
JCOG0703	II	170	Feasibility and safety of LADG	Positive
JCOG0912	III	950	Non-inferiority of LADG	Positive
JCOG1001	III	1200	Superiority of bursectomy	Negative
JCOG1401	II	245	Feasibility of LTG/LPG	Positive

Note: Clinical phase 2 and 3 studies on gastric cancer surgery performed by JCOG which have already results of main analysis.

Abbreviations: EGJ, esophago-gastric junctional adenocarcinoma; LADG, laparoscopy assisted distal gastrectomy; LPG, laparoscopic proximal gastrectomy; LTG, laparoscopic total gastrectomy; PAND, para-aortic lymph node dissection.

Χειρουργικές Τεχνικές

Surgical Oncology 32 (2020) 75–87



Contents lists available at ScienceDirect

Surgical Oncology

journal homepage: <http://www.elsevier.com/locate/suronc>



Enhanced recovery after surgery (ERAS) versus standard recovery for elective gastric cancer surgery: A meta-analysis of randomized controlled trials

Yung Lee^a, James Yu^a, Aristithes G. Doumouras^b, Jennifer Li^b, Dennis Hong^{b,*}

^a Michael G. DeGroote School of Medicine, McMaster University, Hamilton, Ontario, Canada

^b Division of General Surgery, Department of Surgery, McMaster University, Hamilton, Ontario, Canada

Χειρουργικές Τεχνικές



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European Journal of Surgical Oncology

journal homepage: www.ejso.com



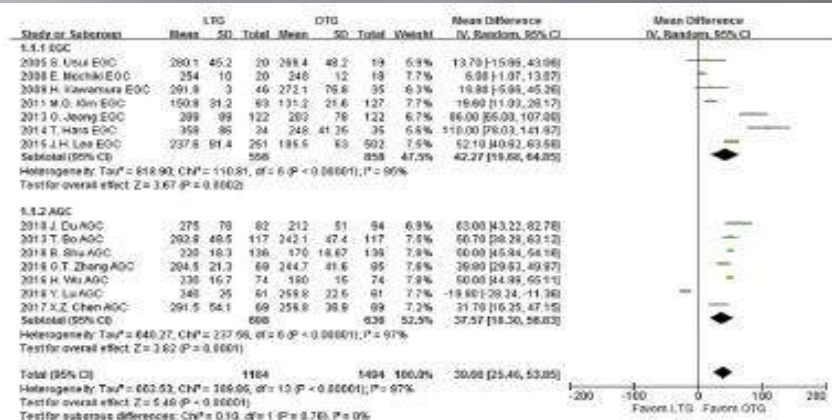
Laparoscopic total gastrectomy as a valid procedure to treat gastric cancer option both in early and advanced stage: A systematic review and meta-analysis[☆]

Youjin Oh ^{a,1}, Min Seo Kim ^{a,1}, Yoon Teak Lee ^b, Chang Min Lee ^c, Jong Han Kim ^c, Sungsoo Park ^{c,*}

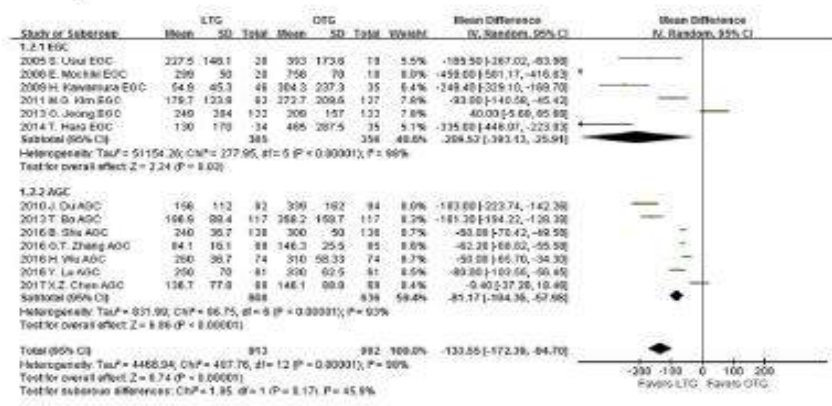
^a Korea University, College of Medicine, Seoul, South Korea

^b Department of Upper Gastrointestinal Surgery, Department of Surgery, Ewha Womans University Seoul Hospital, South Korea

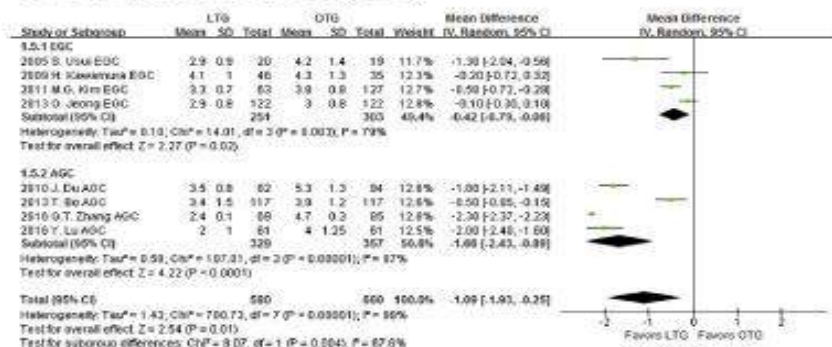
^c Division of Upper Gastrointestinal Surgery, Department of Surgery, Korea University College of Medicine, Seoul, South Korea



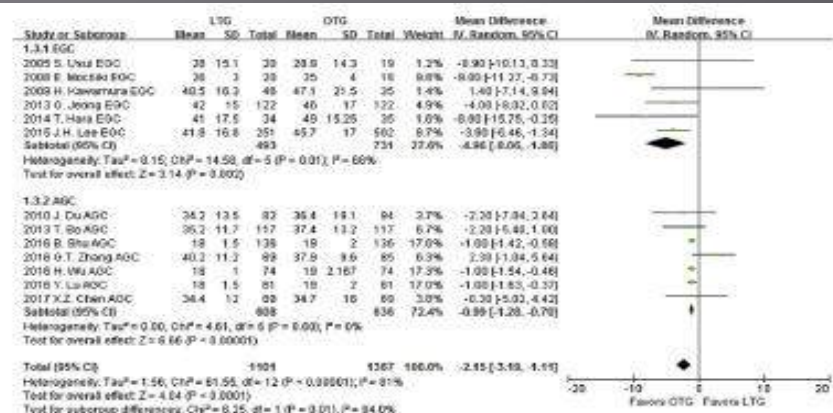
A Operation time



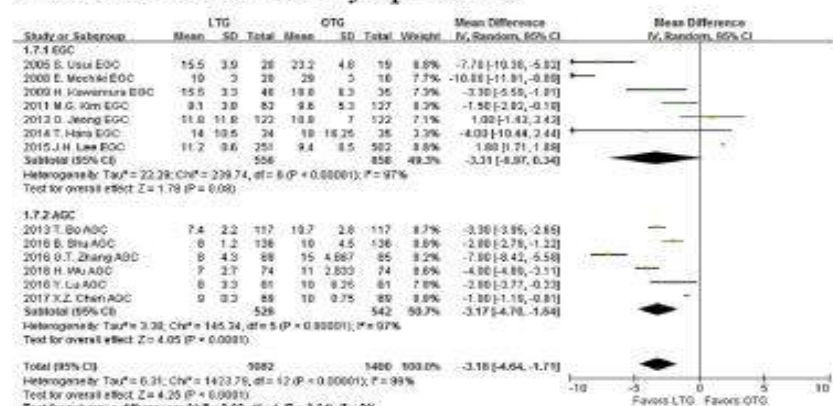
C Estimated blood loss (mL)



E Time to first flatus (days)



B Number of retrieved lymph nodes



[illegible]

A Overall postoperative complications

[illegible]

C Postoperative minor complications

[illegible]

E Anastomotic stenosis

[illegible]

G Surgical site complication

[illegible]

I Pneumonia

[illegible]

B Postoperative major complications

[illegible]

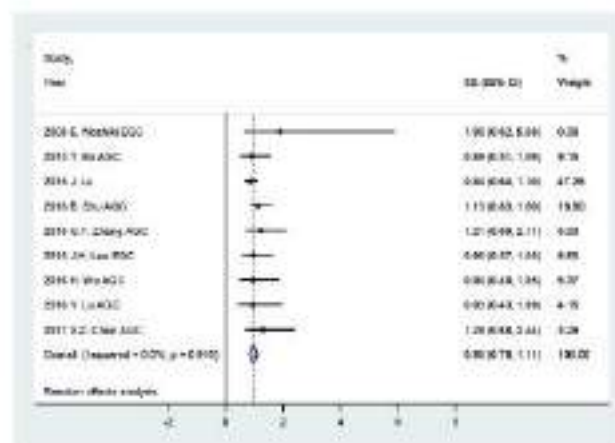
D Anastomotic leakage

[illegible]

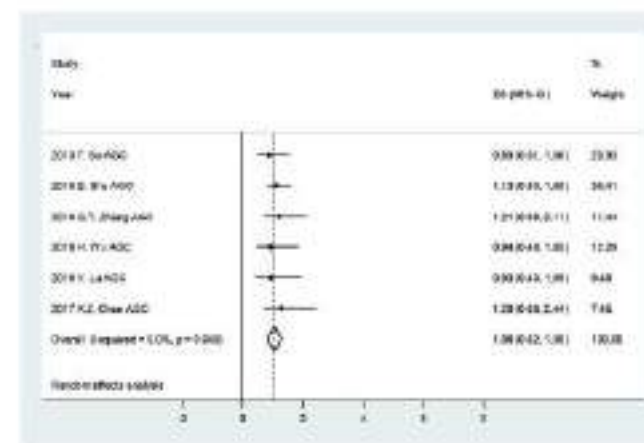
F Duodenal stump leakage

[illegible]

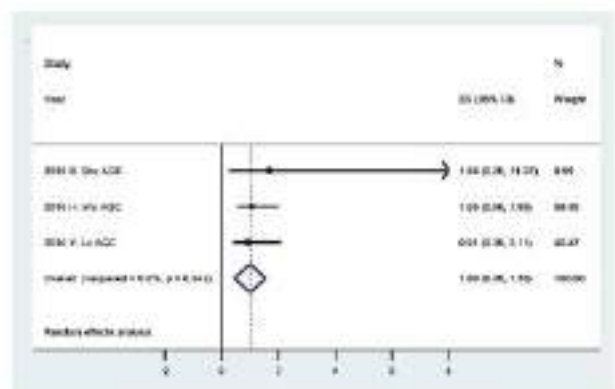
H Pulmonary complication



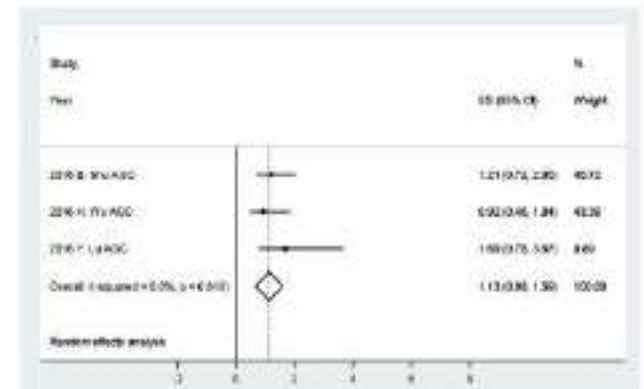
A Five year overall survival rate



B Five year overall survival rate in AGC



C Five year overall survival rate in stage I



D Five year overall survival rate in stage II and III

Χειρουργικές τεχνικές

Surgery Today

<https://doi.org/10.1007/s00595-019-01875-w>

REVIEW ARTICLE



Should robotic gastrectomy become a standard surgical treatment option for gastric cancer?

Susumu Shibasaki¹  · Koichi Suda¹ · Kazutaka Obama² · Masahiro Yoshida³ · Ichiro Uyama¹

Received: 16 April 2019 / Accepted: 29 July 2019

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Ιαπωνικές οδηγίες

Gastric Cancer

<https://doi.org/10.1007/s10120-020-01042-y>

SPECIAL ARTICLE



Japanese gastric cancer treatment guidelines 2018 (5th edition)

Japanese Gastric Cancer Association¹

Received: 16 January 2020 / Accepted: 16 January 2020

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Ιαπωνικές οδηγίες

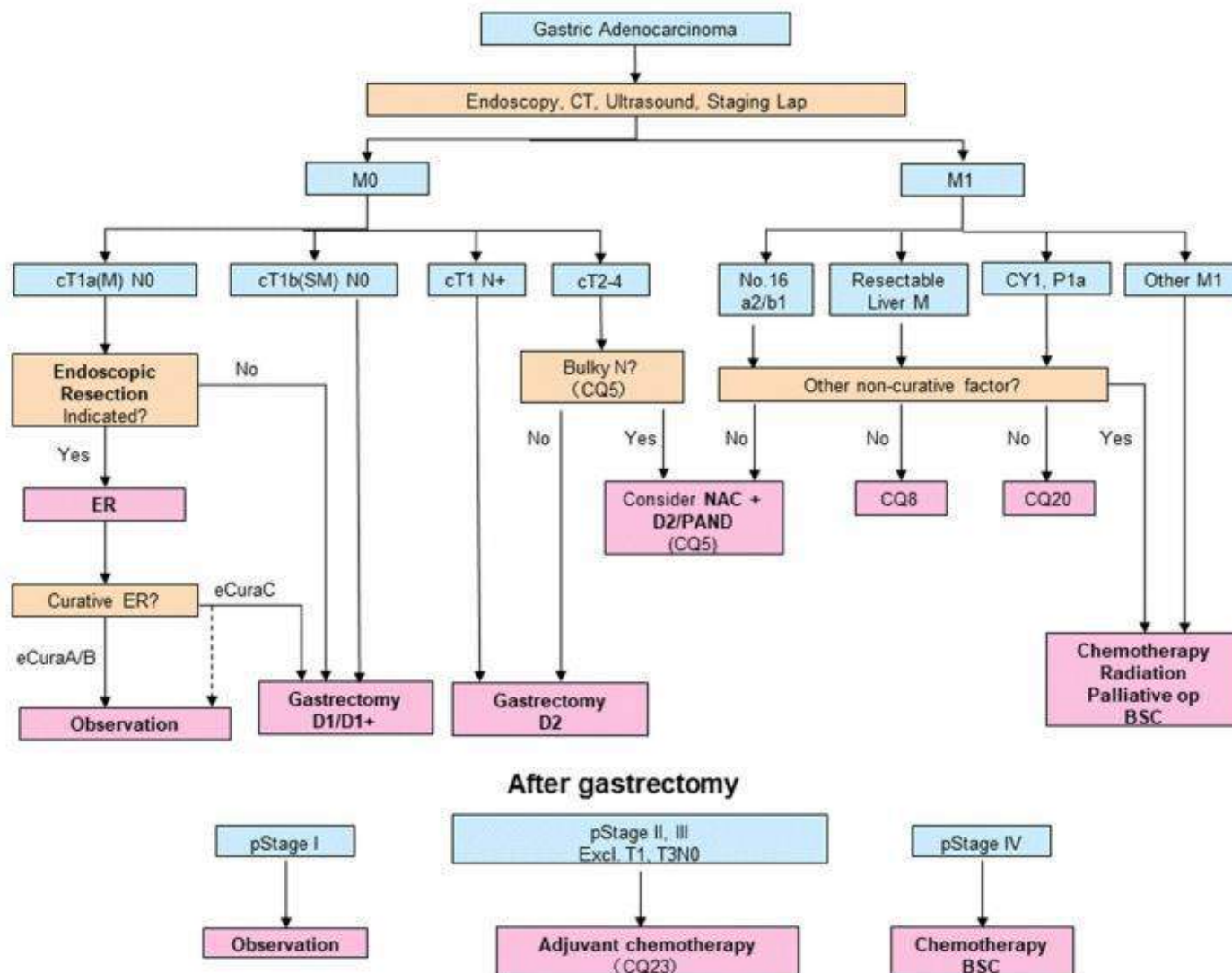


Fig. 1 Algorithm of standard treatments. The T/N/M and Stage are used in conjunction with the Japanese Classification of Gastric Carcinoma 15th edition [1] and TNM classification 8th edition [2]

[Ann Surg Oncol](#). 2019; 26(6): 1805–1813.

PMCID: PMC6510880

Published online 2019 Apr 11. doi: [10.1245/s10434-019-07299-7](https://doi.org/10.1245/s10434-019-07299-7)

PMID: [30977014](https://pubmed.ncbi.nlm.nih.gov/30977014/)

Survival Benefit of Neoadjuvant Chemotherapy with S-1 Plus Docetaxel for Locally Advanced Gastric Cancer: A Propensity Score-Matched Analysis

[Masayuki Kano](#), MD, PhD,  [Koichi Hayano](#), MD, PhD, [Hideki Hayashi](#), MD, PhD, [Naoyuki Hanari](#), MD, PhD, [Hisashi Gunji](#), MD, PhD, [Takeshi Toyozumi](#), MD, PhD, [Kentaro Murakami](#), MD, PhD, [Masaya Uesato](#), MD, PhD, [Satoshi Ota](#), MD, PhD, and [Hisahiro Matsubara](#), MD, PhD

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Table 4

Disease-free survival rate for the NAC DS and Surgery first groups according to stages (Japanese Classification of Gastric Carcinoma (Third English Edition) using the log-rank test

Stages	NAC DS (<i>n</i> = 39)	Surgery first (<i>n</i> = 37)	<i>p</i> value
All	80.0 (67.1–93.4)	58.7 (41.9–75.4)	0.037
cStage IIB	80.2 (60.0–100.4)	70.0 (41.6–98.4)	0.504
cStage III	80.0 (62.5–97.5)	54.0 (33.6–74.4)	0.054

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