

FINAL ID: T7

TITLE: Short-term Outcomes of Prospective Study of Oncologic Outcomes After Laparoscopic Modified Complete Mesocolic Excision for Non-metastatic Right Colon Cancer (PIONEER Study)

ABSTRACT BODY:

Purpose/Background: The introduction of complete mesocolic excision (CME) with central vascular ligation (CVL) for right-sided colon cancer has improved oncologic outcomes. Recently, we have introduced a modified CME (mCME) procedure that keeps the same principles as the originally described CME but with a more tailored approach. This trial aimed to evaluate the oncologic outcomes after laparoscopic mCME, and here we report the short-term outcomes from the trial.

Methods/Interventions: This multi-institutional, prospective, single-arm study was done at five tertiary referral centers in South Korea. Between Aug 11, 2019, and May 06, 2021, a total of 250 patients were enrolled who were histologically confirmed primary adenocarcinoma arising from the right side of the colon located between the appendix and the proximal half of the transverse colon without distant metastasis. The primary outcome of this study is 3-year disease-free survival, but the data for this endpoint are not yet mature. Therefore only the secondary outcomes, incidence of surgical complications, completeness of mCME, and distribution of metastatic lymph nodes, incidence of radial margin involvement and the quality of laparoscopic mCME assessed based on photographs of the surgical specimen and the operation field are reported in this manuscript. This study is registered with ClinicalTrials.gov, NCT03992599. Study recruitment is complete, and follow-up is ongoing.

Results/Outcomes: The postoperative surgical complication rate was 14%, and the incidence of major complications in terms of Clavien-Dindo grade III–IV were 2.7%. Lymphadenectomy around the origin of the colic artery with complete exposure of the SMV or SMA were done in 86.8% cases and 74.4% of specimens had mesocolic plane surgery after reviewing operative field after lymph node dissection and resected surgical specimens based on photographs. The radial margin was evaluated in 207 patients and 8.2% showed less than 1mm. Patients with appendix, cecal and ascending colon cancers most frequently had metastases in the ileocolic and right colic lymph nodes on the main and intermediate stations, whereas there were no metastatic lymph nodes along the middle colic artery. In patients with hepatic flexure and proximal transverse colon cancers, the main and intermediate lymph nodes along the right and middle colic arteries were most commonly metastatic lymph nodes.

Conclusions/Discussion: Laparoscopic mCME for right-sided colon cancer showed favorable short-term postoperative outcomes and surgical quality done by experienced surgeons. Based on the metastatic lymph node distribution, more tailored lymphadenectomy is needed according to tumor location and disease extent. Whether mCME can benefit patients' survival needs to be confirmed by future disease-free survival results.

(no table selected)

Categorized into **5 levels** according the extent of lymphadenectomy for central LNs and recorded as below

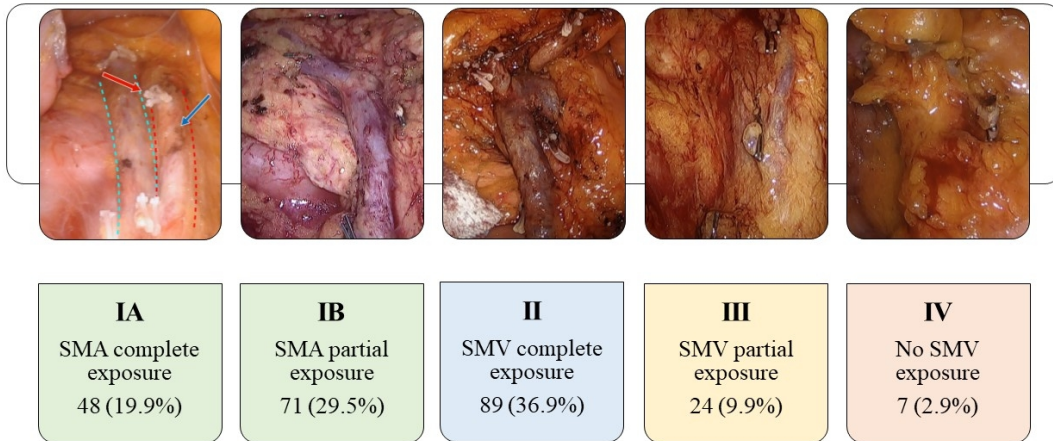


IMAGE CAPTION:

AUTHORS (FIRST NAME, LAST NAME): S. Yang¹, M. Kim², B. Kye³, S. Park⁴, J. Park⁴, J. Kim⁵, B. Min¹

AUTHORS/INSTITUTIONS: S. Yang, B. Min, Yonsei University College of Medicine, Seodaemun-gu, Seoul , KOREA (THE REPUBLIC OF)|M. Kim, Seoul National University College of Medicine, Seoul, KOREA (THE REPUBLIC OF)|B. Kye, Catholic University of Korea School of Medicine, Seoul, Seoul , KOREA (THE REPUBLIC OF)|S. Park, J. Park, Kyungpook National University School of Medicine, Daegu, Daegu, KOREA (THE REPUBLIC OF)|J. Kim, Korea University College of Medicine, Seoul, KOREA (THE REPUBLIC OF)|

FINAL ID: T8

TITLE: Predictors of En-bloc, R0 Resection and Post-procedural Complications Following Advanced Endoscopic Resections for Colorectal Neoplasms: Results of 1213 Procedures

ABSTRACT BODY:

Purpose/Background: Advanced endoscopic resections are commonly used in the treatment of colorectal neoplasms that are not suitable for conventional polypectomy. The purpose of this study is to report predictors of en-bloc, R0 resection and post-procedural complications following advanced endoscopic resections for colorectal neoplasms.

Methods/Interventions: Patients who underwent advanced endoscopic resections for colonic neoplasms at a tertiary care center between November 2011 and August 2022 were identified using Institutional Review Board approved prospectively-maintained database. Advanced endoscopic resections included EMR, ESD, hybrid EMR/ESD, and combined endoscopic laparoscopic surgery (CELS). En-bloc resection is defined as resection of a lesion in one piece. R0 resection is defined as en-bloc resection of a polyp with negative margins. Data was presented as mean (standard deviation), median [interquartile range (IQR)] or frequency (percent). Univariable and multivariable logistic regression models were used to identify the predictors of en-bloc, R0 resection, and post-procedural complications.

Results/Outcomes: A total of 1213 resections from 1047 patients were performed. Median age was 66 years (IQR: 58-72) with 485 (46.3%) of patients being female. Median BMI was 28.6 kg/m² (IQR: 24.8-32.6). Total colonoscopy duration was 69 min (IQR: 47-104). Most lesions were in the right colon (n=898, 74%). Mean lesion size was 31.6 (16.4) mm. 911 (75.1%) lesions had previous interventions. Performed procedures included 681 (56.1%) ESDs, 311 (25.6%) Hybrid EMR/ESDs, 181 (14.9%) EMRs, and 40 (3%) CELS. En-bloc and R0 resection rates were 56.5% and 54.3%, respectively. Smaller lesions and lesions located in rectum had significantly higher en-bloc and R0 resection rates. Compared to other procedures, ESD achieved significantly higher en-bloc (74%) and R0 (71.4%) resection rates. Early (within 24 hours) bleeding and perforation rates were 1% and 5%, respectively. Delayed (after 24 hours) bleeding and perforation rates were 4% and 1.6%, respectively. While increasing age was a predictor of bleeding [OR: 1.05 (95%CI: 1.03-1.08), p<0.001], lesion size was a predictor of perforation [OR: 1.01 (95%CI: 1.00-1.02), p<0.001]. Most common postoperative pathology was tubular adenoma (n=513, 42.3%). Adenocarcinoma rate was 6.2%. Within a median follow-up of 9.2 months, tumor regrowth rate was 6.6%.

Conclusions/Discussion: In this large series of advanced endoscopic resections from a high-volume colorectal surgery unit, lesion size and location have been shown to be significantly associated with en-bloc and R0 resection rates. Complication rates were acceptable, with age being a predictor of bleeding and lesion size being a predictor perforation.

(no table selected)

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Table 1. Predictors of En-bloc and R0 Resection				
Multivariate Analysis for En-bloc Resection				
	Yes (n=685)	No (n=528)	OR	p
Lesion size	30.6 (16.7)	32.9 (15.9)	0.03 (0.0-0.12)	<0.0001
Lesion location				
R colon	457 (50.8%)	441 (49.1%)	0.22 (0.13-0.38)	<0.0001
L colon	104 (62.6%)	62 (37.3%)	0.31 (0.17-0.59)	0.0003
Rectum	119 (84.4%)	22 (15.6%)	Ref.	
Procedure type				
ESD*	504 (74.0%)	177 (25.9%)	Ref.	
EMR*	86 (47.5%)	95 (52.5%)	0.12 (0.08-0.16)	<0.0001
Hybrid ESD/EMR	75 (24.1%)	236 (75.9%)	0.26 (0.19-0.39)	<0.0001
CELS*	20 (50.0%)	20 (50.0%)	0.36 (0.19-0.70)	0.0027
Multivariate Analysis for R0 Resection				
	Yes (n=659)	No (n=554)	OR	p
Lesion size	30.3 (16.8)	33.1 (15.8)	0.03 (0.01-0.13)	<0.0001
Lesion location				
R colon	451 (50.2%)	447 (49.8%)	0.41 (0.26-0.66)	0.000
L colon	96 (57.8%)	70 (42.2%)	0.47 (0.27-0.82)	0.0079
Rectum	107 (75.9%)	34 (24.1%)	Ref.	
Procedure type				
ESD*	486 (71.3%)	195 (28.6%)	Ref.	
EMR*	84 (46.4%)	97 (53.6%)	0.12 (0.09-0.16)	<0.0001
Hybrid ESD/EMR	69 (22.2%)	242 (77.8%)	0.28 (0.19-0.40)	<0.0001
CELS*	20 (50.0%)	20 (50.0%)	0.39 (0.20-0.75)	0.005
*ESD: Endoscopic Submucosal Dissection, EMR: Endoscopic Mucosal Resection, CELS: Combined Endoscopic Laparoscopic Surgery				

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IMAGE CAPTION:

AUTHORS (FIRST NAME, LAST NAME): S. Yilmaz¹, I. Ozgur¹, J. Sommovilla¹, A. Truong¹, M. Maspero¹, A. Bhatt¹, B. Catalano¹, D. Liska¹, S. Steele¹, I. Gorgun¹

AUTHORS/INSTITUTIONS: S. Yilmaz, I. Ozgur, J. Sommovilla, A. Truong, M. Maspero, A. Bhatt, B. Catalano, D. Liska, S. Steele, I. Gorgun, Cleveland Clinic, Cleveland, Ohio, UNITED STATES|

Found 3 Records

FINAL ID: T9

TITLE: Tumor Deposits Should Not be Ignored in Stage III Colon Cancer

ABSTRACT BODY:

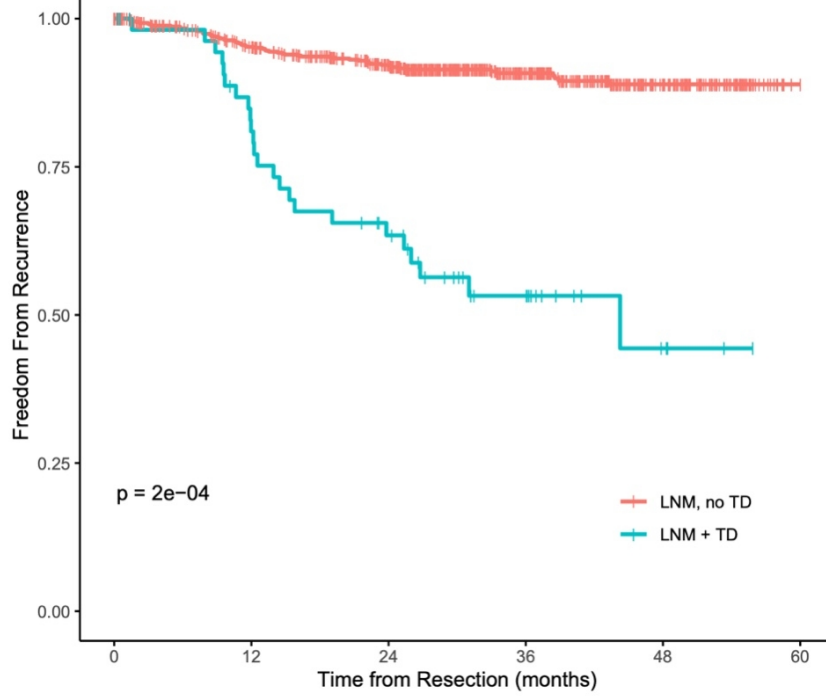
Purpose/Background: Colonic tumor deposits (TD) are focal aggregates of cancer nodules in adjacent pericolic fat or mesentery. Current AJCC staging criteria may undervalue the prognostic impact of TD in the presence of lymph node metastasis (LNM). The current study aims to delineate the prognostic capacity of TD, as well as understand their relationship with other clinicopathologic features.

Methods/Interventions: Using an institutional database we identified patients with stage I-III colon cancer who underwent primary surgical resection from January 2017 to December 2019. Patients with rectal cancer (< 12cm from anal verge), metastatic disease, concurrent malignancy, and those who received neoadjuvant treatment were excluded. Demographic, clinical, and pathologic data were collected by chart review. All pathology was reviewed by an in-house gastrointestinal pathologist. Univariate variables were assessed using chi-squared, T-test, or Mann-Whitney test. Kalpan-Meier was used for survival analysis. Hazard ratios were calculated using a Cox Regression model.

Results/Outcomes: Of the 770 patients included in the final study population, 69 (9%) had the pathologic presence of TD. The presence of TD was significantly associated with the presence of LNM, more advanced T stage, poorly differentiated tumors, microsatellite stable phenotype, and more lymphovascular and perineural invasion ($p < 0.05$). Multivariable analysis showed the presence of TD (HR 2.55, 95% CI [1.55-4.17]), the presence of LNM (HR 3.51, 95% CI [2.11-5.85]), and stage T3 or T4 tumors (HR 3.13, 95% CI [1.48-6.60]) to be independently associated with decreased time to recurrence. Despite the association between the presence of TD and the presence of LNM, Pearson correlation coefficient demonstrated a weakly positive correlation (0.27) between the number of TD and the number of positive lymph nodes.

Conclusions/Discussion: Tumor deposits are associated with more advanced disease and the presence of high-risk pathologic features. The presence of TD and LNM were found to be independent risk factors for decreased time to recurrence. In our cohort, a patient with both LNM and TD is more than twice as likely to have disease recurrence when compared with a patient who has LNM only (Figure 1). This points to the possibility that TD arise from a pathway distinct from lymphatic spread. Future AJCC colon cancer staging should not ignore TD in the presence of LNM.
(no table selected)

Kaplan Meier Curves for Freedom From Recurrence



Freedom from recurrence for patients with both lymph node metastasis and tumor deposits (n = 57) shown in blue, and patients with lymph node metastasis only (n = 188) shown in red

IMAGE CAPTION:

AUTHORS (FIRST NAME, LAST NAME): A. Khan¹, L. Hakki¹, E. Do³, M. Gonen³, C. Firat², E. Vakiani², J. Shia², M. Widmar¹, I. Wei¹, J. J. Smith¹, E. Pappou¹, G. Nash¹, P. B. Paty¹, J. Garcia-Aguilar¹, M. Weiser¹

AUTHORS/INSTITUTIONS: A. Khan, L. Hakki, M. Widmar, I. Wei, J.J. Smith, E. Pappou, G. Nash, P.B. Paty, J. Garcia-Aguilar, M. Weiser, Memorial Sloan Kettering Cancer Center Department of Surgery, New York, New York, UNITED STATES|C. Firat, E. Vakiani, J. Shia, Memorial Sloan Kettering Cancer Center Department of Pathology, New York, New York, UNITED STATES|E. Do, M. Gonen, Memorial Sloan Kettering Cancer Center Department of Biostatistics, New York, New York, UNITED STATES|