

Supplementary materials

Supplementary Table 1. Proportion of patients with adequate LN by site group, and association of site and ≥ 12 LNs harvested

Primary site	100(%)	odds ratio	95% CI
Ascending colon	69.3	2.292	2.216-2.371
Hepatic flexure colon	66.4	1.999	1.896-1.962
Cecum	65.0	1.884	1.826-1.943
Transverse colon	56.8	1.333	1.279-1.389
Descending colon	54.2	1.200	1.143-1.259
Splenic flexure colon	53.3	1.156	1.090-1.226
Sigmoid colon	49.7	Ref.	Ref.

All statistical tests were two-sided. CI = confidence interval; Ref. = referent; OR = odds ratio.

Supplementary Table 2. Univariate and multivariate analysis of survival of patients with colon cancer

Parameter	Characteristic	Univariate analysis		Multivariate analysis	
		χ^2 test	P*	HR(95%CI)	P*
Year of diagnosis		11103.182	0.000	1.523(1.509-1.536)	0.000
	1988~1991				
	1992~1995				
	1996~1999				
	2000~2003				
	2004~2007				
	2008~2010				
Sex		11.604	0.01	1.059(1.034-1.085)	0.000
	Male				
	Female				
Age		1140.080	0.000	0.676(0.661-0.692)	0.000
	18~40				

	41~70				
	71⁺~				
Race		2.756	0.252	NA	NA
	White				
	Black				
	Others				
Grade		488.117	0.000	1.057(1.031-1.084)	0.000
	I/ II				
	III/ IV				
	Unknown				
Histologic type		36.885	0.000	0.945(0.916-0.975)	0.000
	AC				
	Mu				
	SRC				
T stage		2588.020	0.000	1.160(1.142-1.178)	0.000
	T1/ T2				
	T3/ T4				
N stage		148.044	0.000	1.236(1.215-1.258)	0.000
	N0				
	N1				
	N2				
Radiation		11.003	0.001	0.962(0.885-1.046)	0.367
	No				
	Yes				
Primary site		3213.994	0.000	0.868(0.863-0.872)	0.000
	Ascending colon				
	Hepatic flexure colon				
	Cecum colon				
	Transverse colon				

Descending colon

Splenic flexure colon

Sigmoid colon

AC = adenocarcinoma; Mu = mucinous adenocarcinoma; SRC = signet ring cell carcinoma. All statistical tests were two-sided. CI = confidence interval; HR = hazard ratio.

Supplementary Table 3. The 5-year survival ratio for patients in each site group by LN harvest (adequate or not adequate)

Parameter	Characteristic	5-year	95% CI	5-Y	95% CI
Primary site 1		Adequate (≥ 12) LNs		Inadequate (< 12) LNs	
	Ascending colon	81.01%	80.41%-81.59%	75.83%	74.85%-76.79%
	Hepatic flexure colon	79.29%	77.88%-80.20%	74.22%	72.42%-75.94%
	Cecum colon	77.71%	77.13%-78.28%	70.79%	69.92%-71.64%
	Transverse colon	79.84%	78.87%-80.78%	76.22%	75.03%-77.36%
	Descending colon	80.76%	79.55%-81.92%	75.60%	74.17%-76.98%
	Splenic flexure colon	78.20%	76.59%-79.73%	73.32%	71.48%-75.08%
	Sigmoid colon	81.12%	80.54%-81.68%	77.17%	76.65%-77.72%
	Total	79.83%	79.54%-80.12%	75.07%	74.69%-75.45%
Primary site 2					
	Right hemi-colon	80.51%	80.04%-80.96%	76.52%	75.98%-77.05%
	Cecum	77.71%	77.13%-78.28%	70.79%	69.92%-71.64%
	Left hemi-colon	80.74%	80.25%-81.23%	75.71%	75.02%-76.38%
	Total	79.83%	79.54%-80.12%	75.07%	74.69%-75.45%

Supplementary Table 4A. The interaction between site and adequate LN harvest in a general model

Parameter	Characteristic	Multivariate analysis		Adjusting -Multivariate analysis	
		HR(95%CI)	P*	HR(95%CI)	P*
Primary site					
	Ascending colon	0.745 (0.707-0.785)	0.000	0.681 (0.644-0.719)	0.000
	Hepatic flexure colon	0.750 (0.684-0.822)	0.000	0.695 (0.631-0.764)	0.000
	Cecum colon	0.729 (0.698-0.760)	0.000	0.684 (0.654-0.715)	0.000
	Transverse colon	0.816 (0.761-0.876)	0.000	0.793 (0.737-0.854)	0.000
	Descending colon	0.774 (0.712-0.842)	0.000	0.725 (0.663-0.792)	0.000
	Splenic flexure colon	0.766 (0.692-0.848)	0.000	0.720 (0.648-0.801)	0.000
	Sigmoid colon	0.816 (0.784-0.849)	0.000	0.760 (0.729-0.792)	0.000

The survival benefit of adequate nodal harvest was independent of site (P for interaction, 0.473). The adjusted model included year of diagnosis, sex, race, age, grade, histological type, T stage, and adjunctive therapy. All statistical tests were two-sided. CI = confidence interval; Ref. = referent; HR = hazard ratio.

Supplementary Table 4B. The interaction between site and adequate LN harvest with estimated coefficients

Parameter	Characteristic	Multivariate analysis		Adjusting -Multivariate analysis	
		HR(95%CI)	P*	HR(95%CI)	P*
Primary site					
	Right hemi-colon	0.764 (0.736-0.794)	0.000	0.714 (0.686-0.743)	0.000
	Cecum	0.792 (0.698-0.760)	0.000	0.686 (0.656-0.717)	0.000
	Left hemi-colon	0.806 (0.779-0.834)	0.000	0.751 (0.725-0.778)	0.000

The survival benefit of adequate nodal harvest was independent of site (P for interaction, 0.295). The adjusted model included year of diagnosis, sex, race, age, grade, histological type, T stage, and adjunctive therapy. All statistical tests were two-sided. CI = confidence interval; Ref. = referent; HR = hazard ratio.