

Supplementary

Table S1 Prognostic factors in COX proportional hazard model in CRC of T1 category

Variable	Right-sided colon						Left-sided colon						Rectum					
	Univariate Analysis			Multivariate Analysis			Univariate Analysis			Multivariate Analysis			Univariate Analysis			Multivariate Analysis		
	HR	95%CI	P	HR	95%CI	P	HR	95%CI	P	HR	95%CI	P	HR	95%CI	P	HR	95%CI	P
Sex			0.066			<0.001			<0.001			<0.001			<0.001			<0.001
Male	1			1			1			1			1			1		
Female	0.949	0.897-1.004		0.739	0.696-0.785		0.939	0.910-0.970		0.73	0.705-0.756		0.866	0.809-0.927		0.688	0.639-0.740	
Age, years			<0.001			<0.001			<0.001			<0.001			<0.001			<0.001
60-64	1			1			1			1			1			1		
65-69	1.464	1.272-1.684	<0.001	1.498	1.301-1.723	<0.001	1.314	1.225-1.409	<0.001	1.32	1.231-1.416	<0.001	1.217	1.064-1.391	0.004	1.205	1.054-1.378	0.006
70-74	1.815	1.588-2.076	<0.001	1.869	1.634-2.137	<0.001	1.833	1.714-1.960	<0.001	1.824	1.706-1.951	<0.001	1.827	1.605-2.079	<0.001	1.803	1.583-2.054	<0.001
75-79	2.699	2.373-3.070	<0.001	2.791	2.452-3.177	<0.001	2.77	2.599-2.953	<0.001	2.786	2.613-2.971	<0.001	2.976	2.629-3.368	<0.001	2.941	2.595-3.332	<0.001
80-84	4.119	3.624-4.681	<0.001	4.225	3.711-4.810	<0.001	3.895	3.654-4.151	<0.001	3.873	3.630-4.131	<0.001	4.42	3.903-5.006	<0.001	4.42	3.894-5.016	<0.001
>84	6.636	5.836-7.547	<0.001	6.711	5.882-7.656	<0.001	6.265	5.876-6.679	<0.001	6.108	5.719-6.522	<0.001	7.411	6.521-8.421	<0.001	7.339	6.430-8.375	<0.001
Race			<0.001			<0.001			<0.001			<0.001			<0.001			<0.001
Black	1			1			1			1			1			1		
White	1.006	0.922-1.099	0.89	0.829	0.758-0.907	<0.001	0.932	0.885-0.982	0.008	0.813	0.772-0.857	<0.001	0.934	0.832-1.050	0.254	0.756	0.672-0.852	<0.001
Other	0.722	0.618-0.844	<0.001	0.64	0.547-0.749	<0.001	0.676	0.626-0.731	<0.001	0.648	0.599-0.701	<0.001	0.719	0.609-0.848	<0.001	0.632	0.535-0.746	<0.001
Unknown	0.055	0.008-0.388	0.004	0.067	0.009-0.478	0.007	0.114	0.063-0.206	<0.001	0.148	0.082-0.268	<0.001	0.028	0.004-0.201	<0.001	0.031	0.004-0.221	0.001
Histological grade			0.001			<0.001			<0.001			<0.001			0.043			0.041
Well	1			1			1			1			1			1		
Moderately	1.007	0.938-1.081	0.844	1.012	0.942-1.086	0.748	1.205	1.146-1.266	<0.001	1.158	1.101-1.217	<0.001	1.135	1.035-1.245	0.007	1.048	0.954-1.150	0.33
Poorly	1.193	1.054-1.352	0.005	1.197	1.057-1.356	0.005	1.44	1.342-1.545	<0.001	1.301	1.212-1.396	<0.001	1.225	1.048-1.433	0.011	1.126	0.961-1.320	0.141
Undifferentiated	1.27	0.929-1.735	0.134	1.195	0.874-1.633	0.265	1.695	1.439-1.996	<0.001	1.621	1.375-1.911	<0.001	1.008	0.631-1.611	0.973	1.341	0.838-2.145	0.221
Unknown	1.146	1.039-1.264	0.007	1.196	1.084-1.319	<0.001	1.006	0.929-1.088	0.887	1.085	1.002-1.174	0.044	1.137	1.014-1.274	0.028	1.174	1.047-1.316	0.006
Marital status			<0.001			<0.001			<0.001			<0.001			<0.001			<0.001
Single	1			1			1			1			1			1		
Married	0.835	0.750-0.929	0.001	0.792	0.711-0.883	<0.001	0.79	0.748-0.834	<0.001	0.738	0.699-0.780	<0.001	0.792	0.706-0.888	<0.001	0.709	0.631-0.797	<0.001
Widowed	1.359	1.218-1.515	<0.001	1.034	0.925-1.156	0.552	1.281	1.212-1.355	<0.001	0.986	0.931-1.044	0.63	1.265	1.122-1.427	<0.001	0.934	0.826-1.056	0.277
Unknown	0.975	0.833-1.141	0.751	0.862	0.736-1.009	0.065	0.814	0.746-0.888	<0.001	0.781	0.716-0.853	<0.001	0.841	0.708-0.999	0.049	0.792	0.667-0.942	0.008
Histology			0.257			<0.001			<0.001			<0.001			<0.001			0.005
AC	1			1			1			1			1			1		
MC	1.139	0.990-1.311	0.069				1.293	1.215-1.377	<0.001	1.192	1.120-1.270	<0.001	1.448	1.163-1.803	0.001	1.168	0.937-1.455	0.167
SRCC	0.924	0.511-1.670	0.793				1.119	0.799-1.567	0.513	0.877	0.625-1.232	0.45	1.454	0.756-2.797	0.262	1.645	0.847-3.197	0.142
Other	0.91	0.715-1.158	0.441				0.923	0.776-1.099	0.368	1.044	0.876-1.243	0.631	0.563	0.483-0.656	<0.001	0.791	0.674-0.929	0.004

AC, adenocarcinoma; MC, Mucinous adenocarcinoma; SRCC, Signet ring cell carcinoma; HR, Hazard ratio; CI, Confidence interval.

**Table S2** Prognostic factors in COX proportional hazard model in CRC of T2 category

Variable	Right-sided colon						Left-sided colon						Rectum					
	Univariate Analysis			Multivariate Analysis			Univariate Analysis			Multivariate Analysis			Univariate Analysis			Multivariate Analysis		
	HR	95%CI	P	HR	95%CI	P	HR	95%CI	P	HR	95%CI	P	HR	95%CI	P	HR	95%CI	P
Sex			<0.001			<0.001			<0.001			<0.001			0.005			<0.001
Male	1			1			1			1			1			1		
Female	0.914	0.870-0.962		0.713	0.675-0.753		0.855	0.789-0.926		0.680	0.624-0.740		0.900	0.836-0.969		0.713	0.658-0.773	
Age, years			<0.001			<0.001			<0.001			<0.001			<0.001			<0.001
60-64	1			1			1			1			1			1		
65-69	1.373	1.186-1.590	<0.001	1.398	1.207-1.619	<0.001	1.354	1.133-1.617	0.001	1.371	1.147-1.638	0.001	1.626	1.375-1.923	0.000	1.655	1.399-1.957	0.000
70-74	1.956	1.707-2.241	<0.001	2.004	1.749-2.297	<0.001	1.725	1.453-2.048	<0.001	1.734	1.460-2.059	<0.001	2.431	2.073-2.851	0.000	2.479	2.114-2.908	0.000
75-79	2.513	2.206-2.863	<0.001	2.585	2.267-2.946	<0.001	2.745	2.334-3.228	<0.001	2.801	2.380-3.297	<0.001	3.380	2.897-3.944	0.000	3.463	2.965-4.044	0.000
80-84	4.184	3.683-4.753	<0.001	4.294	3.775-4.884	<0.001	4.079	3.469-4.797	<0.001	4.161	3.533-4.902	<0.001	4.837	4.147-5.643	0.000	4.997	4.277-5.839	0.000
>84	6.336	5.581-7.193	<0.001	6.475	5.689-7.369	<0.001	6.179	5.245-7.279	<0.001	6.213	5.255-7.345	<0.001	7.926	6.776-9.271	0.000	8.359	7.119-9.814	0.000
Race			<0.001			<0.001			0.076			0.017			<0.001			<0.001
Black	1			1			1			1			1			1		
White	1.010	0.926-1.102	0.818	0.837	0.767-0.913	<0.001	0.978	0.853-1.122	0.752	0.813	0.707-0.934	0.003	0.860	0.749-0.987	0.032	0.745	0.648-0.857	0.000
Other	0.606	0.513-0.716	<0.001	0.565	0.478-0.668	<0.001	0.841	0.694-1.018	0.076	0.794	0.655-0.963	0.019	0.654	0.538-0.795	0.000	0.588	0.483-0.715	0.000
Unknown	0.219	0.070-0.680	0.009	0.249	0.080-0.776	0.016	0.314	0.078-1.262	0.103	0.371	0.092-1.493	0.163	0.150	0.021-1.072	0.059	0.168	0.024-1.200	0.075
Histological grade			0.199						0.796						0.321			
Well	1						1						1					
Moderately	1.032	0.953-1.118	0.436				1.038	0.921-1.169	0.540				1.015	0.893-1.152	0.824			
Poorly	1.122	1.009-1.248	0.033				1.003	0.827-1.216	0.974				1.161	0.981-1.375	0.083			
Undifferentiated	0.983	0.773-1.249	0.887				1.238	0.749-2.046	0.405				1.019	0.632-1.642	0.939			
Unknown	1.110	0.926-1.331	0.260				1.149	0.867-1.524	0.334				1.012	0.820-1.250	0.911			
Marital status			<0.001			<0.001			<0.001			<0.001			<0.001			<0.001
Single	1			1			1			1			1			1		
Married	0.818	0.745-0.898	<0.001	0.750	0.682-0.825	<0.001	0.815	0.706-0.940	0.005	0.742	0.642-0.857	<0.001	0.874	0.766-0.997	0.045	0.813	0.711-0.929	0.002
Widowed	1.258	1.145-1.382	<0.001	0.951	0.864-1.047	0.309	1.266	1.093-1.467	0.002	0.986	0.848-1.146	0.850	1.267	1.106-1.451	0.001	0.946	0.823-1.088	0.437
Unknown	0.898	0.772-1.045	0.165	0.763	0.655-0.888	<0.001	1.074	0.852-1.354	0.545	0.963	0.764-1.215	0.753	1.026	0.820-1.283	0.824	0.859	0.687-1.075	0.185
Histology			0.021			0.026			0.246						0.034			
AC	1			1			1						1					
MC	1.114	1.030-1.205	0.007	1.078	0.997-1.166	0.059	1.144	0.970-1.351	0.111				1.105	0.915-1.334	0.298			
SRCC	0.968	0.601-1.558	0.894	0.936	0.581-1.507	0.786	1.430	0.642-3.188	0.381				2.847	1.355-5.982	0.006			
Other	1.204	0.964-1.503	0.102	1.320	1.057-1.648	0.014	1.258	0.791-2.001	0.331				1.004	0.750-1.344	0.977			

AC, adenocarcinoma; MC, Mucinous adenocarcinoma; SRCC, Signet ring cell carcinoma; HR, Hazard ratio; CI, Confidence interval.

**Table S3** Prognostic factors in COX proportional hazard model in CRC of T3 category

Variable	Right-sided colon						Left-sided colon					
	Univariate Analysis			Multivariate Analysis			Univariate Analysis			Multivariate Analysis		
	HR	95%CI	P	HR	95%CI	P	HR	95%CI	P	HR	95%CI	P
Sex			<0.001			<0.001			<0.001			<0.001
Male	1			1			1			1		
Female	0.904	0.876-0.933		0.721	0.696-0.746		0.885	0.845-0.927		0.708	0.674-0.745	
Age, years			<0.001			<0.001			<0.001			<0.001
60-64	1			1			1			1		
65-69	1.36	1.243-1.489	<0.001	1.375	1.256-1.505	<0.001	1.342	1.206-1.493	<0.001	1.345	1.208-1.497	<0.001
70-74	1.798	1.652-1.956	<0.001	1.84	1.690-2.002	<0.001	1.808	1.633-2.002	<0.001	1.801	1.626-1.994	<0.001
75-79	2.663	2.458-2.885	<0.001	2.72	2.510-2.948	<0.001	2.640	2.396-2.908	<0.001	2.666	2.419-2.938	<0.001
80-84	3.658	3.383-3.956	<0.001	3.748	3.464-4.057	<0.001	3.470	3.150-3.822	<0.001	3.484	3.160-3.841	<0.001
>84	5.462	5.056-5.900	<0.001	5.581	5.158-6.038	<0.001	5.609	5.097-6.171	<0.001	5.574	5.056-6.144	<0.001
Race			<0.001			<0.001			<0.001			<0.001
Black	1			1			1			1		
White	1.079	1.021-1.140	0.007	0.892	0.843-0.943	<0.001	0.960	0.890-1.035	0.284	0.835	0.774-0.901	<0.001
Other	0.796	0.726-0.872	<0.001	0.719	0.656-0.788	<0.001	0.659	0.587-0.739	<0.001	0.622	0.555-0.698	<0.001
Unknown	0.278	0.139-0.558	<0.001	0.275	0.137-0.552	<0.001	0.291	0.130-0.651	0.003	0.348	0.156-0.778	<0.001
Histological grade			<0.001						0.001			<0.001
Well	1						1			1		
Moderately	1.034	0.972-1.100	0.285				1.051	0.963-1.147	0.261	1.079	0.989-1.178	0.087
Poorly	1.133	1.058-1.213	<0.001				1.207	1.082-1.346	0.001	1.185	1.062-1.321	0.002
Undifferentiated	1.122	0.996-1.263	0.059				1.407	1.122-1.764	0.003	1.498	1.195-1.879	<0.001
Unknown	1.163	1.024-1.320	0.02				1.390	1.159-1.667	<0.001	1.416	1.181-1.699	<0.001
Marital status			<0.001			<0.001			<0.001			<0.001
Single	1			1			1			1		
Married	0.788	0.744-0.834	<0.001	0.724	0.683-0.767	<0.001	0.833	0.769-0.902	<0.001	0.774	0.714-0.839	<0.001
Widowed	1.173	1.108-1.242	<0.001	0.909	0.857-0.963	0.001	1.272	1.173-1.379	<0.001	1.029	0.947-1.118	0.499
Unknown	0.959	0.875-1.051	0.373	0.822	0.750-0.901	<0.001	1.007	0.879-1.154	0.923	0.898	0.783-1.029	0.121
Histology			0.005			0.038			0.023			
AC	1			1			1					
MC	1.07	1.024-1.119	0.003	1.059	1.013-1.107	0.012	1.132	1.042-1.231	0.004			
SRCC	1.111	0.943-1.309	0.207	1.095	0.929-1.289	0.28	0.973	0.586-1.615	0.915			
Other	1.121	0.989-1.271	0.074	1.08	0.953-1.225	0.227	1.180	0.874-1.592	0.280			

AC, adenocarcinoma; MC, Mucinous adenocarcinoma; SRCC, Signet ring cell carcinoma; HR, Hazard ratio; CI, Confidence interval.

**Table S4** Univariate Analysis stratified by T category and Age/Race/Histology

Variable	T1			T2			T3		
	HR	95% CI	P	HR	95% CI	P	HR	95% CI	P
Age, years									
60-64	0.769	0.677-0.872	<0.001	0.688	0.588-0.806	<0.001	0.774	0.705-0.850	<0.001
65-69	0.775	0.701-0.858	<0.001	0.745	0.662-0.838	<0.001	0.761	0.705-0.821	<0.001
70-74	0.774	0.708-0.846	<0.001	0.796	0.722-0.877	<0.001	0.799	0.750-0.852	<0.001
75-79	0.768	0.711-0.830	<0.001	0.732	0.674-0.794	<0.001	0.729	0.691-0.769	<0.001
80-84	0.728	0.674-0.786	<0.001	0.805	0.747-0.868	<0.001	0.772	0.735-0.812	<0.001
>84	0.847	0.780-0.920	<0.001	0.734	0.681-0.791	<0.001	0.810	0.773-0.849	<0.001
Race									
Black	0.898	0.806-1.000	0.051	0.825	0.729-0.933	0.002	0.793	0.734-0.857	<0.001
White	0.933	0.897-0.970	<0.001	0.910	0.875-0.947	<0.001	0.935	0.911-0.959	<0.001
Other	0.887	0.769-1.024	0.102	0.910	0.771-1.073	0.263	0.818	0.739-0.906	<0.001
Unknown	0.579	0.060-5.571	0.636	1.930	0.322-11.563	0.472	0.647	0.254-1.649	0.362
Histology									
AC	0.926	0.893-0.960	<0.001	0.895	0.861-0.930	<0.001	0.902	0.880-0.926	<0.001
MC	1.064	0.869-1.304	0.546	0.964	0.850-1.094	0.573	0.986	0.920-1.057	0.690
SRCC	1.073	0.480-2.402	0.863	1.317	0.597-2.906	0.495	1.038	0.772-1.395	0.805
Other	0.951	0.753-1.201	0.673	0.861	0.618-1.200	0.377	0.773	0.626-0.954	0.017

AC, adenocarcinoma; MC, Mucinous adenocarcinoma; SRCC, Signet ring cell carcinoma; HR, Hazard ratio; CI, Confidence interval.