

Supplementary tables

Table S1. Subgroup analysis for incidence rate of cancer in KTRs aged ≥ 40 years according to smoking status

	Age	Smoking	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	40-49	Never	1669	105	10.00	1(Ref.)	0.012	1(Ref.)	0.006
		Ex	748	35	7.09	0.702(0.479,1.029)		0.684(0.455,1.028)	
		Current	374	16	7.58	0.767(0.453,1.298)		0.74(0.427,1.281)	
	≥ 50	Never	2364	220	14.65	1(Ref.)		1(Ref.)	
		Ex	1017	117	18.98	1.296(1.035,1.622)		1.284(0.987,1.669)	
		Current	332	35	19.28	1.338(0.936,1.913)		1.469(0.994,2.17)	
Oral cavity, pharyngeal & laryngeal	40-49	Never	1669	0	0.00	1(Ref.)	-	1(Ref.)	-
		Ex	748	0	0.00	.		.	
		Current	374	0	0.00	.		.	
	≥ 50	Never	2364	5	0.32	1(Ref.)		1(Ref.)	
		Ex	1017	6	0.93	2.939(0.897,9.632)		1.677(0.431,6.525)	
		Current	332	3	1.58	4.971(1.184,20.874)		2.765(0.537,14.246)	
Esophagus	40-49	Never	1669	0	0.00	1(Ref.)	-	1(Ref.)	-
		Ex	748	0	0.00	.		.	
		Current	374	0	0.00	.		.	
	≥ 50	Never	2364	4	0.25	1(Ref.)		1(Ref.)	
		Ex	1017	2	0.31	1.213(0.222,6.624)		0.737(0.102,5.324)	
		Current	332	0	0.00	.		.	
Stomach	40-49	Never	1669	8	0.74	1(Ref.)	0.731	1(Ref.)	0.811
		Ex	748	0	0.00	.		.	
		Current	374	2	0.93	1.272(0.27,5.995)		0.745(0.152,3.665)	

	≥ 50	Never	2364	31	1.99	1(Ref.)		1(Ref.)	
		Ex	1017	23	3.60	1.815(1.058,3.113)		1.211(0.655,2.239)	
		Current	332	2	1.05	0.544(0.13,2.273)		0.371(0.085,1.625)	
Colorectal	40-49	Never	1669	11	1.02	1(Ref.)	0.520	1(Ref.)	0.537
		Ex	748	4	0.79	0.756(0.241,2.376)		0.914(0.259,3.223)	
		Current	374	0	0.00	.		.	
	≥ 50	Never	2364	19	1.21	1(Ref.)		1(Ref.)	
		Ex	1017	13	2.02	1.657(0.818,3.355)		1.967(0.823,4.702)	
		Current	332	6	3.17	2.729(1.087,6.847)		3.469(1.175,10.241)	
Lung	40-49	Never	1669	6	0.55	1(Ref.)	0.176	1(Ref.)	0.176
		Ex	748	1	0.20	0.357(0.043,2.962)		0.498(0.054,4.585)	
		Current	374	0	0.00	.		.	
	≥ 50	Never	2364	13	0.83	1(Ref.)		1(Ref.)	
		Ex	1017	16	2.49	3.001(1.443,6.239)		4.199(1.576,11.187)	
		Current	332	9	4.80	5.802(2.474,13.609)		9.476(3.152,28.486)	
Liver	40-49	Never	1669	2	0.18	1(Ref.)	0.990	1(Ref.)	0.999
		Ex	748	0	0.00	.		.	
		Current	374	1	0.46	2.527(0.229,27.895)		2.35(0.19,29.091)	
	≥ 50	Never	2364	12	0.77	1(Ref.)		1(Ref.)	
		Ex	1017	13	2.02	2.598(1.185,5.695)		2.777(0.968,7.965)	
		Current	332	3	1.58	2.075(0.584,7.37)		2.379(0.543,10.418)	
Pancreatic	40-49	Never	1669	1	0.09	1(Ref.)	0.999	1(Ref.)	0.999
		Ex	748	0	0.00	.		.	
		Current	374	0	0.00	.		.	
	≥ 50	Never	2364	15	0.96	1(Ref.)		1(Ref.)	
		Ex	1017	4	0.62	0.646(0.214,1.945)		1.055(0.261,4.273)	

		Current	332	3	1.58	1.647(0.475,5.705)		3.094(0.665,14.399)	
	40-49	Never	1669	23	2.14	1(Ref.)	0.911	1(Ref.)	0.921
		Ex	748	5	0.99	0.472(0.179,1.242)		1.061(0.345,3.262)	
Thyroid		Current	374	2	0.93	0.427(0.101,1.811)		1.034(0.216,4.954)	
	≥ 50	Never	2364	24	1.54	1(Ref.)		1(Ref.)	
		Ex	1017	6	0.93	0.603(0.247,1.476)		1.331(0.458,3.864)	
		Current	332	1	0.53	0.335(0.045,2.477)		0.811(0.1,6.572)	
	40-49	Never	1669	3	0.28	1(Ref.)	0.999	1(Ref.)	0.999
		Ex	748	0	0.00	.		.	
		Current	374	0	0.00	.		.	
Biliary	≥ 50	Never	2364	11	0.70	1(Ref.)		1(Ref.)	
		Ex	1017	4	0.62	0.876(0.279,2.752)		0.734(0.202,2.661)	
		Current	332	2	1.06	1.509(0.333,6.836)		1.627(0.305,8.67)	
	40-49	Never	1669	21	1.95	1(Ref.)	0.911	1(Ref.)	0.910
		Ex	748	9	1.79	0.906(0.415,1.979)		0.656(0.288,1.495)	
		Current	374	4	1.86	0.983(0.337,2.866)		0.758(0.249,2.305)	
Renal or bladder	≥ 50	Never	2364	37	2.37	1(Ref.)		1(Ref.)	
		Ex	1017	11	1.71	0.722(0.368,1.416)		0.537(0.261,1.104)	
		Current	332	4	2.12	0.923(0.329,2.592)		0.84(0.285,2.475)	
	40-49	Never	542	1	0.28	1(Ref.)	0.867	1(Ref.)	0.900
		Ex	719	2	0.41	1.418(0.129,15.64)		1.404(0.127,15.536)	
		Current	358	0	0.00	.		.	
Prostate ^b	≥ 50	Never	831	17	3.16	1(Ref.)		1(Ref.)	
		Ex	996	14	2.23	0.717(0.354,1.456)		0.782(0.383,1.597)	
		Current	318	3	1.64	0.559(0.163,1.911)		0.739(0.209,2.617)	

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for sex, low income, alcohol consumption, physical activity, DM, HTN and dyslipidemia.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

Table S2. Subgroup analysis for incidence rate of cancer in KTRs with DM according to smoking status

	DM	Smoking	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	No	Never	3570	260	11.41	1(Ref.)	0.010	1(Ref.)	0.021
		Ex	1431	101	10.67	0.931(0.74,1.172)		1.037(0.792,1.357)	
		Current	657	28	7.42	0.659(0.446,0.973)		0.873(0.572,1.332)	
	Yes	Never	1325	94	11.32	1(Ref.)		1(Ref.)	
		Ex	756	74	16.22	1.43(1.054,1.939)		1.549(1.114,2.154)	
		Current	335	29	15.68	1.396(0.92,2.117)		1.72(1.109,2.668)	
Oral cavity, pharyngeal & laryngeal	No	Never	3570	3	0.13	1(Ref.)	0.282	1(Ref.)	0.322
		Ex	1431	6	0.62	4.894(1.224,19.572)		3.137(0.658,14.95)	
		Current	657	1	0.26	2.028(0.211,19.529)		1.778(0.156,20.214)	
	Yes	Never	1325	2	0.23	1(Ref.)		1(Ref.)	
		Ex	756	1	0.21	0.906(0.082,9.989)		0.638(0.054,7.544)	
		Current	335	2	1.04	4.431(0.623,31.489)		3.766(0.475,29.882)	
Esophagus	No	Never	3570	0	0.00	1(Ref.)	-	1(Ref.)	-
		Ex	1431	0	0.00	.		.	
		Current	657	0	0.00	.		.	
	Yes	Never	1325	4	0.47	1(Ref.)		1(Ref.)	
		Ex	756	2	0.42	0.898(0.165,4.905)		0.763(0.104,5.626)	
		Current	335	0	0.00	.		.	
Stomach	No	Never	3570	25	1.06	1(Ref.)	0.233	1(Ref.)	0.204
		Ex	1431	9	0.93	0.863(0.403,1.85)		0.634(0.278,1.445)	
		Current	657	3	0.78	0.756(0.228,2.507)		0.72(0.203,2.555)	
	Yes	Never	1325	15	1.76	1(Ref.)		1(Ref.)	
		Ex	756	15	3.17	1.801(0.88,3.684)		1.358(0.635,2.903)	

		Current	335	1	0.52	0.302(0.04,2.289)		0.269(0.035,2.088)	
	No	Never	3570	24	1.02	1(Ref.)	0.183	1(Ref.)	0.235
		Ex	1431	9	0.93	0.89(0.413,1.915)		1.211(0.477,3.073)	
Colorectal		Current	657	2	0.52	0.528(0.125,2.235)		0.894(0.188,4.259)	
	Yes	Never	1325	7	0.82	1(Ref.)		1(Ref.)	
		Ex	756	8	1.68	2.024(0.734,5.584)		2.611(0.851,8.017)	
		Current	335	4	2.09	2.6(0.761,8.887)		3.901(1.026,14.83)	
	No	Never	3570	13	0.55	1(Ref.)	0.906	1(Ref.)	0.942
		Ex	1431	11	1.13	2.055(0.921,4.588)		3.315(1.164,9.441)	
Lung		Current	657	5	1.30	2.366(0.842,6.647)		5.787(1.626,20.593)	
	Yes	Never	1325	6	0.70	1(Ref.)		1(Ref.)	
		Ex	756	6	1.26	1.798(0.58,5.576)		2.702(0.748,9.766)	
		Current	335	4	2.10	3.007(0.848,10.664)		6.049(1.472,24.855)	
	No	Never	3570	8	0.34	1(Ref.)	0.934	1(Ref.)	0.968
		Ex	1431	7	0.72	2.085(0.756,5.755)		2.538(0.729,8.831)	
Liver		Current	657	2	0.52	1.535(0.325,7.238)		2.542(0.444,14.564)	
	Yes	Never	1325	6	0.70	1(Ref.)		1(Ref.)	
		Ex	756	7	1.47	2.069(0.695,6.158)		2.389(0.675,8.453)	
		Current	335	3	1.56	2.203(0.551,8.815)		3.137(0.67,14.684)	
	No	Never	3570	10	0.42	1(Ref.)	0.591	1(Ref.)	0.654
		Ex	1431	1	0.10	0.243(0.031,1.896)		0.523(0.055,4.939)	
Pancreatic		Current	657	0	0.00	.		.	
	Yes	Never	1325	6	0.70	1(Ref.)		1(Ref.)	
		Ex	756	3	0.63	0.888(0.222,3.551)		1.68(0.331,8.521)	
		Current	335	3	1.56	2.216(0.553,8.873)		5.814(1.126,30.016)	
Thyroid	No	Never	3570	47	2.00	1(Ref.)	0.423	1(Ref.)	0.468

		Ex	1431	10	1.03	0.521(0.263,1.031)		1.317(0.568,3.054)	
		Current	657	2	0.52	0.253(0.061,1.04)		0.674(0.149,3.053)	
	Yes	Never	1325	13	1.53	1(Ref.)		1(Ref.)	
		Ex	756	7	1.47	0.969(0.386,2.428)		2.331(0.824,6.594)	
		Current	335	2	1.05	0.669(0.151,2.967)		1.732(0.356,8.434)	
Biliary	No	Never	3570	13	0.55	1(Ref.)	0.442	1(Ref.)	0.495
		Ex	1431	0	0.00	.		.	
		Current	657	1	0.26	0.475(0.062,3.641)		0.64(0.072,5.685)	
	Yes	Never	1325	1	0.12	1(Ref.)		1(Ref.)	
		Ex	756	4	0.84	7.086(0.792,63.403)		6.145(0.652,57.908)	
		Current	335	1	0.52	4.472(0.279,71.573)		5.163(0.305,87.439)	
Renal or bladder	No	Never	3570	47	2.00	1(Ref.)	0.804	1(Ref.)	0.824
		Ex	1431	23	2.38	1.183(0.719,1.949)		0.864(0.495,1.51)	
		Current	657	8	2.09	1.071(0.506,2.27)		0.923(0.409,2.082)	
	Yes	Never	1325	13	1.52	1(Ref.)		1(Ref.)	
		Ex	756	6	1.26	0.826(0.314,2.172)		0.614(0.228,1.653)	
		Current	335	3	1.57	1.048(0.299,3.68)		0.878(0.244,3.16)	
Prostate ^b	No	Never	1219	12	1.48	1(Ref.)	0.911	1(Ref.)	0.899
		Ex	1375	10	1.07	0.712(0.308,1.648)		0.779(0.334,1.817)	
		Current	622	2	0.54	0.391(0.087,1.75)		0.651(0.14,3.036)	
	Yes	Never	540	6	1.77	1(Ref.)		1(Ref.)	
		Ex	737	7	1.51	0.854(0.287,2.54)		1.013(0.339,3.024)	
		Current	327	2	1.06	0.619(0.125,3.071)		0.995(0.198,5.01)	

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for age, sex, low income, alcohol consumption, physical activity, HTN and dyslipidemia.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

Table S3. Subgroup analysis for incidence rate of cancer in KTRs with HTN according to smoking status

	HTN	Smoking	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	No	Never	1648	122	11.19	1(Ref.)	0.918	1(Ref.)	0.999
		Ex	530	46	13.06	1.159(0.826,1.628)		1.203(0.83,1.744)	
		Current	213	13	10.23	0.922(0.52,1.634)		1.172(0.645,2.129)	
	Yes	Never	3247	232	11.49	1(Ref.)		1(Ref.)	
		Ex	1657	129	12.28	1.065(0.859,1.321)		1.195(0.931,1.536)	
		Current	779	44	10.11	0.889(0.644,1.228)		1.155(0.81,1.646)	
Oral cavity, pharyngeal & laryngeal	No	Never	1648	1	0.09	1(Ref.)	0.998	1(Ref.)	0.997
		Ex	530	1	0.27	3.166(0.198,50.623)		1.85(0.102,33.482)	
		Current	213	0	0.00	.		.	
	Yes	Never	3247	4	0.19	1(Ref.)		1(Ref.)	
		Ex	1657	6	0.55	2.895(0.817,10.258)		2.077(0.507,8.505)	
		Current	779	3	0.67	3.494(0.78,15.643)		3.319(0.616,17.886)	
Esophagus	No	Never	1648	3	0.27	1(Ref.)	-	1(Ref.)	-
		Ex	530	0	0.00	.		.	
		Current	213	0	0.00	.		.	
	Yes	Never	3247	1	0.05	1(Ref.)		1(Ref.)	
		Ex	1657	2	0.18	3.891(0.353,42.915)		3.144(0.233,42.522)	
		Current	779	0	0.00	.		.	
Stomach	No	Never	1648	14	1.24	1(Ref.)	0.935	1(Ref.)	0.997
		Ex	530	7	1.92	1.532(0.618,3.797)		0.918(0.348,2.425)	
		Current	213	0	0.00	.		.	
	Yes	Never	3247	26	1.25	1(Ref.)		1(Ref.)	
		Ex	1657	17	1.57	1.25(0.678,2.304)		0.956(0.491,1.86)	
		Current	779	4	0.90	0.737(0.257,2.114)		0.683(0.226,2.068)	

Colorectal	No	Never	1648	14	1.24	1(Ref.)	0.763	1(Ref.)	0.776
		Ex	530	6	1.65	1.288(0.494,3.354)		1.568(0.52,4.73)	
		Current	213	1	0.76	0.628(0.083,4.778)		0.974(0.117,8.09)	
	Yes	Never	3247	17	0.81	1(Ref.)		1(Ref.)	
		Ex	1657	11	1.01	1.225(0.574,2.616)		1.612(0.656,3.963)	
		Current	779	5	1.12	1.416(0.522,3.843)		2.201(0.707,6.856)	
Lung	No	Never	1648	5	0.44	1(Ref.)	0.208	1(Ref.)	0.227
		Ex	530	6	1.65	3.732(1.139,12.23)		5.456(1.384,21.516)	
		Current	213	4	3.08	6.989(1.876,26.039)		15.794(3.467,71.957)	
	Yes	Never	3247	14	0.67	1(Ref.)		1(Ref.)	
		Ex	1657	11	1.01	1.512(0.686,3.331)		2.45(0.893,6.724)	
		Current	779	5	1.12	1.676(0.603,4.66)		3.793(1.119,12.859)	
Liver	No	Never	1648	5	0.44	1(Ref.)	0.955	1(Ref.)	0.873
		Ex	530	3	0.82	1.804(0.431,7.554)		1.772(0.349,8.986)	
		Current	213	1	0.76	1.723(0.201,14.759)		2.266(0.227,22.673)	
	Yes	Never	3247	9	0.43	1(Ref.)		1(Ref.)	
		Ex	1657	11	1.01	2.329(0.965,5.621)		2.749(0.919,8.226)	
		Current	779	4	0.90	2.074(0.638,6.745)		3.109(0.786,12.294)	
Pancreatic	No	Never	1648	5	0.44	1(Ref.)	0.992	1(Ref.)	0.997
		Ex	530	1	0.27	0.615(0.072,5.267)		1.122(0.109,11.532)	
		Current	213	0	0.00	.		.	
	Yes	Never	3247	11	0.53	1(Ref.)		1(Ref.)	
		Ex	1657	3	0.28	0.523(0.146,1.877)		1.025(0.222,4.732)	
		Current	779	3	0.67	1.281(0.357,4.603)		3.74(0.791,17.688)	
Thyroid	No	Never	1648	27	2.41	1(Ref.)	0.171	1(Ref.)	0.182
		Ex	530	4	1.10	0.463(0.162,1.323)		1.178(0.37,3.745)	

Biliary	Yes	Current	213	3	2.30	0.938(0.284,3.092)		2.439(0.667,8.923)	
		Never	3247	33	1.59	1(Ref.)		1(Ref.)	
		Ex	1657	13	1.20	0.764(0.402,1.451)		1.742(0.782,3.88)	
		Current	779	1	0.22	0.138(0.019,1.005)		0.336(0.043,2.626)	
	No	Never	1648	7	0.62	1(Ref.)	0.877	1(Ref.)	0.795
		Ex	530	1	0.27	0.426(0.052,3.468)		0.321(0.036,2.898)	
		Current	213	0	0.00	.		.	
		Never	3247	7	0.33	1(Ref.)		1(Ref.)	
		Ex	1657	3	0.28	0.818(0.212,3.165)		0.761(0.177,3.263)	
		Current	779	2	0.45	1.343(0.278,6.485)		1.835(0.329,10.219)	
Renal or bladder	No	Never	1648	19	1.69	1(Ref.)	0.960	1(Ref.)	0.963
		Ex	530	7	1.94	1.138(0.478,2.707)		0.783(0.314,1.954)	
		Current	213	2	1.53	0.918(0.214,3.943)		0.762(0.171,3.403)	
	Yes	Never	3247	41	1.97	1(Ref.)		1(Ref.)	
		Ex	1657	22	2.04	1.028(0.612,1.725)		0.805(0.458,1.414)	
		Current	779	9	2.03	1.056(0.513,2.174)		0.957(0.441,2.081)	
Prostate ^b	No	Never	451	9	2.98	1(Ref.)	0.057	1(Ref.)	0.043
		Ex	500	1	0.29	0.094(0.012,0.745)		0.095(0.012,0.752)	
		Current	196	0	0.00	.		.	
	Yes	Never	1308	9	1.06	1(Ref.)		1(Ref.)	
		Ex	1612	16	1.52	1.425(0.63,3.225)		1.638(0.721,3.718)	
		Current	753	4	0.92	0.921(0.283,2.997)		1.516(0.449,5.114)	

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for age, sex, low income, alcohol consumption, physical activity, DM and dyslipidemia.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

Table S4. Subgroup analysis for incidence rate of cancer in KTRs with dyslipidemia according to smoking status

	Dyslipidemia	Smoking	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	No	Never	2349	164	11.01	1(Ref.)	0.972	1(Ref.)	0.899
		Ex	1069	83	11.85	1.071(0.822,1.395)		1.153(0.86,1.545)	
		Current	508	29	9.92	0.91(0.613,1.35)		1.111(0.729,1.694)	
	Yes	Never	2546	190	11.73	1(Ref.)		1(Ref.)	
		Ex	1118	92	13.10	1.114(0.869,1.429)		1.243(0.933,1.655)	
		Current	484	28	10.38	0.895(0.602,1.331)		1.211(0.789,1.859)	
Oral cavity, pharyngeal & laryngeal	No	Never	2349	3	0.19	1(Ref.)	0.277	1(Ref.)	0.282
		Ex	1069	1	0.14	0.72(0.075,6.927)		0.484(0.047,5.023)	
		Current	508	3	1.00	5.085(1.025,25.229)		4.285(0.726,25.29)	
	Yes	Never	2546	2	0.12	1(Ref.)		1(Ref.)	
		Ex	1118	6	0.82	6.937(1.4,34.368)		4.635(0.782,27.488)	
		Current	484	0	0.00	.		.	
Esophagus	No	Never	2349	3	0.19	1(Ref.)	-	1(Ref.)	-
		Ex	1069	0	0.00	.		.	
		Current	508	0	0.00	.		.	
	Yes	Never	2546	1	0.06	1(Ref.)		1(Ref.)	
		Ex	1118	2	0.27	4.606(0.418,50.793)		3.859(0.245,60.833)	
		Current	484	0	0.00	.		.	
Stomach	No	Never	2349	17	1.10	1(Ref.)	0.540	1(Ref.)	0.590
		Ex	1069	10	1.39	1.245(0.57,2.719)		0.898(0.395,2.045)	
		Current	508	3	1.00	0.93(0.272,3.177)		0.779(0.218,2.783)	
	Yes	Never	2546	23	1.38	1(Ref.)		1(Ref.)	
		Ex	1118	14	1.93	1.395(0.718,2.711)		0.98(0.47,2.044)	
		Current	484	1	0.36	0.268(0.036,1.985)		0.242(0.032,1.862)	

Colorectal	No	Never	2349	17	1.10	1(Ref.)	0.503	1(Ref.)	0.405
		Ex	1069	8	1.11	0.984(0.424,2.281)		1.293(0.49,3.41)	
		Current	508	2	0.67	0.627(0.145,2.716)		0.968(0.203,4.623)	
	Yes	Never	2546	14	0.84	1(Ref.)		1(Ref.)	
		Ex	1118	9	1.23	1.454(0.629,3.36)		2.032(0.752,5.494)	
		Current	484	4	1.44	1.762(0.579,5.359)		3.161(0.897,11.134)	
Lung	No	Never	2349	10	0.65	1(Ref.)	0.708	1(Ref.)	0.690
		Ex	1069	7	0.97	1.502(0.571,3.946)		2.294(0.73,7.212)	
		Current	508	5	1.68	2.583(0.882,7.565)		5.221(1.47,18.546)	
	Yes	Never	2546	9	0.54	1(Ref.)		1(Ref.)	
		Ex	1118	10	1.37	2.553(1.037,6.282)		4.105(1.328,12.692)	
		Current	484	4	1.44	2.708(0.833,8.806)		6.938(1.746,27.57)	
Liver	No	Never	2349	3	0.19	1(Ref.)	0.436	1(Ref.)	0.416
		Ex	1069	6	0.83	4.205(1.051,16.82)		4.532(0.993,20.689)	
		Current	508	1	0.33	1.721(0.179,16.554)		2.175(0.204,23.17)	
	Yes	Never	2546	11	0.66	1(Ref.)		1(Ref.)	
		Ex	1118	8	1.10	1.648(0.663,4.099)		1.81(0.572,5.731)	
		Current	484	4	1.44	2.168(0.689,6.821)		3.139(0.794,12.407)	
Pancreatic	No	Never	2349	5	0.32	1(Ref.)	0.554	1(Ref.)	0.639
		Ex	1069	2	0.28	0.855(0.166,4.407)		1.458(0.232,9.173)	
		Current	508	2	0.67	2.06(0.399,10.632)		5.296(0.818,34.292)	
	Yes	Never	2546	11	0.66	1(Ref.)		1(Ref.)	
		Ex	1118	2	0.27	0.415(0.092,1.874)		0.821(0.143,4.725)	
		Current	484	1	0.36	0.55(0.071,4.266)		1.625(0.172,15.393)	
Thyroid	No	Never	2349	28	1.83	1(Ref.)	0.997	1(Ref.)	0.996
		Ex	1069	8	1.11	0.618(0.282,1.356)		1.543(0.609,3.907)	

Biliary	Yes	Current	508	2	0.67	0.357(0.085,1.499)	0.721	0.966(0.209,4.47)	0.733
		Never	2546	32	1.92	1(Ref.)		1(Ref.)	
		Ex	1118	9	1.24	0.647(0.309,1.356)		1.614(0.668,3.895)	
		Current	484	2	0.72	0.366(0.088,1.528)		0.952(0.208,4.354)	
	No	Never	2349	4	0.26	1(Ref.)	0.894	1(Ref.)	0.864
		Ex	1069	2	0.28	1.046(0.191,5.716)		0.941(0.16,5.528)	
		Current	508	1	0.33	1.303(0.145,11.679)		1.63(0.164,16.227)	
		Never	2546	10	0.60	1(Ref.)		1(Ref.)	
		Ex	1118	2	0.27	0.455(0.1,2.075)		0.401(0.077,2.083)	
		Current	484	1	0.36	0.599(0.077,4.692)		0.841(0.094,7.518)	
Renal or bladder	No	Never	2349	24	1.56	1(Ref.)	0.208	1(Ref.)	0.311
		Ex	1069	12	1.67	1.065(0.533,2.13)		0.812(0.393,1.679)	
		Current	508	4	1.34	0.877(0.304,2.53)		0.742(0.248,2.22)	
	Yes	Never	2546	36	2.16	1(Ref.)	0.208	1(Ref.)	0.311
		Ex	1118	17	2.35	1.082(0.608,1.927)		0.791(0.421,1.489)	
		Current	484	7	2.54	1.206(0.537,2.713)		1.051(0.441,2.506)	
Prostate ^b	No	Never	914	11	1.84	1(Ref.)	0.208	1(Ref.)	0.311
		Ex	1040	5	0.71	0.38(0.132,1.095)		0.468(0.162,1.353)	
		Current	489	2	0.69	0.396(0.088,1.789)		0.606(0.13,2.83)	
	Yes	Never	845	7	1.27	1(Ref.)	0.208	1(Ref.)	0.311
		Ex	1072	12	1.72	1.356(0.534,3.444)		1.404(0.551,3.58)	
		Current	460	2	0.75	0.623(0.129,3.003)		1.049(0.212,5.185)	

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for age, sex, low income, alcohol consumption, physical activity, DM and HTN.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

Table S5. Subgroup analysis for incidence rate of cancer in KTRs with obesity according to smoking status

	Obesity	Smoking	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	No	Never	3719	267	11.16	1(Ref.)	0.2194	1(Ref.)	0.2358
		Ex	1560	123	12.10	1.079(0.871,1.336)		1.149(0.891,1.481)	
		Current	643	43	11.64	1.053(0.762,1.453)		1.319(0.923,1.885)	
	Yes	Never	1176	87	12.12	1(Ref.)		1(Ref.)	
		Ex	627	52	13.47	1.109(0.786,1.563)		1.326(0.918,1.915)	
		Current	349	14	7.27	0.606(0.345,1.066)		0.841(0.468,1.51)	
Oral cavity, pharyngeal & laryngeal	No	Never	3719	2	0.08	1(Ref.)	0.7359	1(Ref.)	0.8365
		Ex	1560	4	0.38	4.754(0.871,25.955)		2.921(0.474,17.986)	
		Current	643	3	0.79	9.727(1.623,58.304)		7.896(1.118,55.788)	
	Yes	Never	1176	3	0.40	1(Ref.)		1(Ref.)	
		Ex	627	3	0.75	1.872(0.378,9.275)		1.433(0.254,8.104)	
		Current	349	0	0.00	.		.	
Esophagus	No	Never	3719	3	0.12	1(Ref.)	0.8941	1(Ref.)	0.7088
		Ex	1560	1	0.09	0.793(0.082,7.621)		0.466(0.039,5.531)	
		Current	643	0	0.00	.		.	
	Yes	Never	1176	1	0.13	1(Ref.)		1(Ref.)	
		Ex	627	1	0.25	1.88(0.118,30.065)		2.151(0.099,46.93)	
		Current	349	0	0.00	.		.	
Stomach	No	Never	3719	29	1.17	1(Ref.)	0.8693	1(Ref.)	0.8676
		Ex	1560	17	1.62	1.368(0.752,2.491)		0.92(0.473,1.788)	
		Current	643	2	0.53	0.459(0.109,1.924)		0.394(0.09,1.726)	
	Yes	Never	1176	11	1.48	1(Ref.)		1(Ref.)	
		Ex	627	7	1.76	1.182(0.458,3.049)		1.02(0.378,2.75)	
		Current	349	2	1.02	0.702(0.155,3.168)		0.689(0.146,3.25)	

Colorectal	No	Never	3719	21	0.85	1(Ref.)	0.801	1(Ref.)	0.9282
		Ex	1560	12	1.14	1.312(0.645,2.669)		1.685(0.702,4.046)	
		Current	643	4	1.05	1.271(0.436,3.708)		1.998(0.597,6.685)	
	Yes	Never	1176	10	1.35	1(Ref.)		1(Ref.)	
		Ex	627	5	1.26	0.925(0.316,2.707)		1.432(0.437,4.687)	
		Current	349	2	1.02	0.781(0.171,3.566)		1.437(0.283,7.306)	
Lung	No	Never	3719	12	0.48	1(Ref.)	0.5033	1(Ref.)	0.6964
		Ex	1560	13	1.24	2.552(1.164,5.595)		3.693(1.331,10.25)	
		Current	643	9	2.38	4.912(2.067,11.676)		10.503(3.47,31.792)	
	Yes	Never	1176	7	0.94	1(Ref.)		1(Ref.)	
		Ex	627	4	1.00	1.068(0.313,3.648)		1.959(0.492,7.803)	
		Current	349	0	0.00	.		.	
Liver	No	Never	3719	8	0.32	1(Ref.)	0.349	1(Ref.)	0.5118
		Ex	1560	11	1.05	3.172(1.275,7.893)		3.335(1.068,10.413)	
		Current	643	5	1.31	4.041(1.32,12.368)		5.788(1.523,21.998)	
	Yes	Never	1176	6	0.81	1(Ref.)		1(Ref.)	
		Ex	627	3	0.75	0.929(0.232,3.716)		1.249(0.267,5.836)	
		Current	349	0	0.00	.		.	
Pancreatic	No	Never	3719	10	0.40	1(Ref.)	0.7353	1(Ref.)	0.8639
		Ex	1560	3	0.28	0.703(0.193,2.554)		1.231(0.261,5.81)	
		Current	643	2	0.53	1.303(0.285,5.956)		3.555(0.61,20.706)	
	Yes	Never	1176	6	0.81	1(Ref.)		1(Ref.)	
		Ex	627	1	0.25	0.311(0.037,2.582)		0.722(0.074,7.081)	
		Current	349	1	0.51	0.633(0.076,5.27)		2.082(0.205,21.096)	
Thyroid	No	Never	3719	45	1.83	1(Ref.)	0.9005	1(Ref.)	0.8706
		Ex	1560	12	1.14	0.632(0.335,1.196)		1.623(0.726,3.626)	

Biliary	Yes	Current	643	3	0.79	0.421(0.131,1.357)		1.141(0.318,4.094)	
		Never	1176	15	2.03	1(Ref.)		1(Ref.)	
		Ex	627	5	1.26	0.624(0.227,1.718)		1.466(0.48,4.477)	
		Current	349	1	0.51	0.245(0.032,1.852)		0.616(0.076,5.007)	
	No	Never	3719	6	0.24	1(Ref.)	0.9999	1(Ref.)	0.9999
		Ex	1560	4	0.38	1.534(0.433,5.438)		1.31(0.324,5.306)	
		Current	643	2	0.53	2.168(0.437,10.768)		2.888(0.501,16.653)	
		Never	1176	8	1.08	1(Ref.)		1(Ref.)	
		Ex	627	0	0.00	.		.	
		Current	349	0	0.00	.		.	
Renal or bladder	No	Never	3719	45	1.83	1(Ref.)	0.4765	1(Ref.)	0.4265
		Ex	1560	21	2.01	1.092(0.65,1.833)		0.804(0.453,1.428)	
		Current	643	5	1.32	0.736(0.292,1.855)		0.631(0.239,1.667)	
	Yes	Never	1176	15	2.02	1(Ref.)		1(Ref.)	
		Ex	627	8	2.02	0.996(0.422,2.348)		0.795(0.327,1.931)	
		Current	349	6	3.08	1.565(0.607,4.036)		1.475(0.546,3.988)	
Prostate ^b	No	Never	1261	16	1.90	1(Ref.)	0.3733	1(Ref.)	0.3632
		Ex	1502	13	1.28	0.668(0.321,1.388)		0.717(0.343,1.501)	
		Current	608	2	0.55	0.303(0.07,1.321)		0.493(0.11,2.216)	
	Yes	Never	498	2	0.65	1(Ref.)		1(Ref.)	
		Ex	610	4	1.04	1.589(0.291,8.678)		1.957(0.357,10.725)	
		Current	341	2	1.04	1.683(0.237,11.965)		2.631(0.362,19.108)	

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for age, sex, low income, alcohol consumption, physical activity, DM and HTN.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

Table S6. Subgroup analysis for incidence rate of cancer in KTRs aged ≥ 40 years according to alcohol consumption status

	Age	Drink	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	40-49	No	2112	131	9.65	1(Ref.)	0.0214	1(Ref.)	0.0177
		Yes	679	25	6.29	0.659(0.43,1.011)		0.635(0.411,0.981)	
	≥50	No	3083	305	15.73	1(Ref.)		1(Ref.)	
		Yes	630	67	18.55	1.189(0.913,1.55)		1.169(0.885,1.543)	
Oral cavity, pharyngeal & laryngeal	40-49	No	2112	0	0.00	1(Ref.)	0.9998	1(Ref.)	0.9998
		Yes	679	0	0.00	.		.	
	≥50	No	3083	10	0.49	1(Ref.)		1(Ref.)	
		Yes	630	4	1.05	2.119(0.664,6.764)		1.267(0.372,4.313)	
Esophagus	40-49	No	2112	0	0.00	1(Ref.)	0.9997	1(Ref.)	0.9999
		Yes	679	0	0.00	.		.	
	≥50	No	3083	3	0.15	1(Ref.)		1(Ref.)	
		Yes	630	3	0.79	5.223(1.052,25.942)		8.108(1.239,53.072)	
Stomach	40-49	No	2112	8	0.57	1(Ref.)	0.4042	1(Ref.)	0.446
		Yes	679	2	0.50	0.885(0.188,4.172)		0.856(0.18,4.075)	
	≥50	No	3083	42	2.09	1(Ref.)		1(Ref.)	
		Yes	630	14	3.71	1.797(0.981,3.293)		1.635(0.866,3.088)	
Colorectal	40-49	No	2112	13	0.93	1(Ref.)	0.187	1(Ref.)	0.1926
		Yes	679	2	0.50	0.549(0.124,2.435)		0.55(0.122,2.493)	
	≥50	No	3083	29	1.44	1(Ref.)		1(Ref.)	
		Yes	630	9	2.37	1.686(0.797,3.564)		1.67(0.752,3.71)	
Lung	40-49	No	2112	7	0.50	1(Ref.)	0.9813	1(Ref.)	0.9811
		Yes	679	0	0.00	.		.	
	≥50	No	3083	28	1.39	1(Ref.)		1(Ref.)	

		Yes	630	10	2.63	1.904(0.924,3.923)		1.473(0.673,3.222)	
	40-49	No	2112	2	0.14	1(Ref.)	0.9949	1(Ref.)	0.9645
		Yes	679	1	0.25	1.757(0.159,19.397)		1.437(0.127,16.197)	
Liver	≥50	No	3083	21	1.04	1(Ref.)		1(Ref.)	
		Yes	630	7	1.84	1.772(0.753,4.172)		1.523(0.606,3.829)	
	40-49	No	2112	1	0.07	1(Ref.)	0.9893	1(Ref.)	0.9891
		Yes	679	0	0.00	.		.	
Pancreatic	≥50	No	3083	20	0.99	1(Ref.)		1(Ref.)	
		Yes	630	2	0.52	0.528(0.123,2.262)		0.555(0.118,2.608)	
	40-49	No	2112	28	2.01	1(Ref.)	0.1992	1(Ref.)	0.1551
		Yes	679	2	0.50	0.241(0.057,1.013)		0.34(0.079,1.457)	
Thyroid	≥50	No	3083	27	1.34	1(Ref.)		1(Ref.)	
		Yes	630	4	1.05	0.773(0.271,2.211)		1.239(0.413,3.713)	
	40-49	No	2112	2	0.14	1(Ref.)	0.7554	1(Ref.)	0.7807
		Yes	679	1	0.25	1.745(0.158,19.278)		1.651(0.144,18.936)	
Biliary	≥50	No	3083	14	0.69	1(Ref.)		1(Ref.)	
		Yes	630	3	0.79	1.135(0.326,3.956)		1.123(0.299,4.212)	
	40-49	No	2112	30	2.15	1(Ref.)	0.1761	1(Ref.)	0.1813
		Yes	679	4	0.99	0.473(0.167,1.344)		0.405(0.14,1.167)	
Renal or bladder	≥50	No	3083	43	2.14	1(Ref.)		1(Ref.)	
		Yes	630	9	2.38	1.134(0.553,2.328)		0.962(0.457,2.023)	
	40-49	No	1072	3	0.41	1(Ref.)	0.9881	1(Ref.)	0.9847
		Yes	547	0	0.00	.		.	
Prostate ^b	≥50	No	1578	25	2.49	1(Ref.)		1(Ref.)	
		Yes	567	9	2.61	1.082(0.505,2.319)		1.184(0.546,2.565)	
Breast ^c	40-49	No	1040	16	2.38	1(Ref.)	0.9901	1(Ref.)	0.9899

		Yes	132	1	1.27	0.543(0.072,4.096)		0.572(0.076,4.323)	
	≥50	No	1505	10	0.99	1(Ref.)		1(Ref.)	
		Yes	63	0	0.00	.		.	
Ovarian ^c	40-49	No	1040	1	0.15	1(Ref.)	0.9937	1(Ref.)	0.9993
		Yes	132	1	1.28	10.436(0.641,170.015)		14.557(0.815,259.951)	
	≥50	No	1505	3	0.30	1(Ref.)		1(Ref.)	
		Yes	63	0	0.00	.		.	
Uterine ^c	40-49	No	1040	4	0.59	1(Ref.)	0.9934	1(Ref.)	0.9942
		Yes	132	2	2.56	4.384(0.802,23.961)		4.679(0.852,25.695)	
	≥50	No	1505	2	0.20	1(Ref.)		1(Ref.)	
		Yes	63	0	0.00	.		.	

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for sex, low income, smoking, physical activity, DM, HTN and dyslipidemia.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

^c Data of female participants were analyzed.

Table S7. Subgroup analysis for incidence rate of cancer in KTRs with DM according to alcohol consumption status

	DM	Drink	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	No	No	4359	322	11.44	1(Ref.)	0.126	1(Ref.)	0.2145
		Yes	1299	67	8.52	0.75(0.576,0.976)		0.869(0.659,1.145)	
	Yes	No	1912	158	13.26	1(Ref.)	1.056(0.743,1.499)	1(Ref.)	
		Yes	504	39	13.90			1.147(0.802,1.642)	
Oral cavity, pharyngeal & laryngeal	No	No	4359	7	0.24	1(Ref.)	0.771	1(Ref.)	0.7841
		Yes	1299	3	0.37	1.547(0.4,5.988)		1.243(0.302,5.12)	
	Yes	No	1912	4	0.32	1(Ref.)	1.055(0.118,9.451)	1(Ref.)	
		Yes	504	1	0.34			0.867(0.095,7.931)	
Esophagus	No	No	4359	0	0.00	1(Ref.)	0.9998	1(Ref.)	0.9999
		Yes	1299	0	0.00	.		.	
	Yes	No	1912	3	0.24	1(Ref.)	4.175(0.839,20.775)	1(Ref.)	
		Yes	504	3	1.03			7.414(1.204,45.667)	
Stomach	No	No	4359	29	1.00	1(Ref.)	0.4982	1(Ref.)	0.6128
		Yes	1299	8	1.00	1.019(0.466,2.231)		1.199(0.534,2.691)	
	Yes	No	1912	23	1.87	1(Ref.)	1.502(0.671,3.36)	1(Ref.)	
		Yes	504	8	2.76			1.603(0.705,3.641)	
Colorectal	No	No	4359	28	0.96	1(Ref.)	0.7638	1(Ref.)	0.9015
		Yes	1299	7	0.87	0.925(0.404,2.118)		1.168(0.487,2.802)	
	Yes	No	1912	15	1.22	1(Ref.)	1.142(0.379,3.442)	1(Ref.)	
		Yes	504	4	1.37			1.274(0.411,3.95)	
Lung	No	No	4359	21	0.72	1(Ref.)	0.3368	1(Ref.)	0.3232
		Yes	1299	8	0.99	1.381(0.611,3.121)		1.373(0.57,3.306)	
	Yes	No	1912	14	1.14	1(Ref.)		1(Ref.)	

		Yes	504	2	0.69	0.603(0.137,2.655)		0.585(0.13,2.63)	
	No	No	4359	12	0.41	1(Ref.)	0.9156	1(Ref.)	0.8369
		Yes	1299	5	0.62	1.515(0.533,4.306)		1.628(0.54,4.908)	
Liver	Yes	No	1912	12	0.97	1(Ref.)		1(Ref.)	
		Yes	504	4	1.37	1.394(0.449,4.326)		1.385(0.43,4.454)	
	No	No	4359	11	0.38	1(Ref.)	0.9889	1(Ref.)	0.9889
		Yes	1299	0	0.00	.		.	
Pancreatic	Yes	No	1912	10	0.81	1(Ref.)		1(Ref.)	
		Yes	504	2	0.68	0.834(0.183,3.809)		1.037(0.213,5.059)	
	No	No	4359	51	1.76	1(Ref.)	0.34	1(Ref.)	0.3598
		Yes	1299	8	1.00	0.556(0.264,1.172)		0.774(0.356,1.684)	
Thyroid	Yes	No	1912	21	1.71	1(Ref.)		1(Ref.)	
		Yes	504	1	0.34	0.196(0.026,1.458)		0.285(0.038,2.151)	
	No	No	4359	12	0.41	1(Ref.)	0.2825	1(Ref.)	0.3404
		Yes	1299	2	0.25	0.604(0.135,2.705)		0.796(0.165,3.835)	
Biliary	Yes	No	1912	4	0.32	1(Ref.)		1(Ref.)	
		Yes	504	2	0.69	2.091(0.383,11.428)		2.402(0.423,13.636)	
	No	No	4359	65	2.24	1(Ref.)	0.3509	1(Ref.)	0.342
		Yes	1299	13	1.62	0.732(0.403,1.328)		0.645(0.347,1.2)	
Renal or bladder	Yes	No	1912	17	1.38	1(Ref.)		1(Ref.)	
		Yes	504	5	1.72	1.271(0.469,3.447)		1.133(0.413,3.113)	
	No	No	2155	18	1.24	1(Ref.)	0.6908	1(Ref.)	0.6161
		Yes	1061	6	0.91	0.766(0.304,1.933)		0.916(0.359,2.339)	
Prostate ^b	Yes	No	1148	11	1.51	1(Ref.)		1(Ref.)	
		Yes	456	4	1.52	1.033(0.328,3.246)		1.336(0.422,4.229)	
Breast ^c	No	No	2204	28	1.93	1(Ref.)	0.9866	1(Ref.)	0.9908

Ovarian ^c	Yes	Yes	238	1	0.70	0.372(0.051,2.734)		0.319(0.043,2.369)	
		No	764	5	1.00	1(Ref.)		1(Ref.)	
		Yes	48	0	0.00	.		.	
	No	No	2204	4	0.27	1(Ref.)	0.994	1(Ref.)	0.9984
		Yes	238	1	0.70	2.707(0.301,24.352)		3.574(0.365,35.025)	
		No	764	1	0.20	1(Ref.)		1(Ref.)	
	Yes	Yes	48	0	0.00	.		.	
		No	2204	7	0.48	1(Ref.)	0.9925	1(Ref.)	0.995
		Yes	238	2	1.40	3.017(0.626,14.539)		2.811(0.549,14.381)	
Uterine ^c	Yes	No	764	1	0.20	1(Ref.)		1(Ref.)	
		Yes	48	0	0.00	.		.	
		No	2204	7	0.48	1(Ref.)	0.9925	1(Ref.)	0.995

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for age, sex, low income, smoking, physical activity, HTN and dyslipidemia.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

^c Data of female participants were analyzed.

Table S8. Subgroup analysis for incidence rate of cancer in KTRs with HTN according to alcohol consumption status

	HTN	Drink	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	No	No	1907	153	12.04	1.273(0.851,1.905)	0.7303	1.13(0.749,1.704)	0.6558
		Yes	484	28	9.39	1(Ref.)		1(Ref.)	
	Yes	No	4364	327	11.95	1.171(0.915,1.5)		1.015(0.783,1.315)	
		Yes	1319	78	10.15	1(Ref.)		1(Ref.)	
Oral cavity, pharyngeal & laryngeal	No	No	1907	2	0.15	1(Ref.)	0.991	1(Ref.)	0.9904
		Yes	484	0	0.00	.		.	
	Yes	No	4364	9	0.32	1(Ref.)		1(Ref.)	
		Yes	1319	4	0.50	1.589(0.489,5.164)		1.358(0.394,4.682)	
Esophagus	No	No	1907	3	0.23	1(Ref.)	0.9949	1(Ref.)	0.9967
		Yes	484	0	0.00	.		.	
	Yes	No	4364	0	0.00	1(Ref.)		1(Ref.)	
		Yes	1319	3	0.38	.		.	
Stomach	No	No	1907	18	1.37	1(Ref.)	0.3629	1(Ref.)	0.2729
		Yes	484	3	0.98	0.734(0.216,2.494)		0.774(0.224,2.671)	
	Yes	No	4364	34	1.20	1(Ref.)		1(Ref.)	
		Yes	1319	13	1.65	1.393(0.735,2.641)		1.675(0.863,3.25)	
Colorectal	No	No	1907	16	1.21	1(Ref.)	0.4346	1(Ref.)	0.4499
		Yes	484	5	1.64	1.377(0.504,3.761)		1.643(0.58,4.658)	
	Yes	No	4364	27	0.95	1(Ref.)		1(Ref.)	
		Yes	1319	6	0.76	0.807(0.333,1.957)		0.98(0.389,2.471)	
Lung	No	No	1907	13	0.99	1(Ref.)	0.437	1(Ref.)	0.3766
		Yes	484	2	0.65	0.664(0.15,2.944)		0.611(0.133,2.807)	
	Yes	No	4364	22	0.78	1(Ref.)		1(Ref.)	

		Yes	1319	8	1.01	1.3(0.579,2.923)		1.314(0.555,3.113)	
	No	No	1907	7	0.53	1(Ref.)	0.8507	1(Ref.)	0.8106
		Yes	484	2	0.65	1.237(0.257,5.961)		1.275(0.254,6.401)	
Liver	Yes	No	4364	17	0.60	1(Ref.)		1(Ref.)	
		Yes	1319	7	0.89	1.471(0.609,3.55)		1.59(0.625,4.044)	
	No	No	1907	6	0.45	1(Ref.)	0.9891	1(Ref.)	0.9889
		Yes	484	0	0.00	.		.	
Pancreatic	Yes	No	4364	15	0.53	1(Ref.)		1(Ref.)	
		Yes	1319	2	0.25	0.473(0.108,2.07)		0.68(0.144,3.211)	
	No	No	1907	27	2.06	1(Ref.)	0.0198	1(Ref.)	0.0203
		Yes	484	7	2.30	1.095(0.477,2.515)		1.49(0.632,3.515)	
Thyroid	Yes	No	4364	45	1.60	1(Ref.)		1(Ref.)	
		Yes	1319	2	0.25	0.155(0.038,0.64)		0.213(0.051,0.896)	
	No	No	1907	7	0.53	1(Ref.)	0.6027	1(Ref.)	0.5685
		Yes	484	1	0.33	0.617(0.076,5.019)		0.746(0.087,6.387)	
Biliary	Yes	No	4364	9	0.32	1(Ref.)		1(Ref.)	
		Yes	1319	3	0.38	1.188(0.321,4.394)		1.532(0.387,6.061)	
	No	No	1907	23	1.75	1(Ref.)	0.7634	1(Ref.)	0.7777
		Yes	484	5	1.64	0.951(0.362,2.503)		0.83(0.31,2.219)	
Renal or bladder	Yes	No	4364	59	2.09	1(Ref.)		1(Ref.)	
		Yes	1319	13	1.65	0.799(0.438,1.457)		0.704(0.377,1.315)	
	No	No	785	9	1.67	1(Ref.)	0.2083	1(Ref.)	0.1787
		Yes	362	1	0.43	0.268(0.034,2.119)		0.312(0.039,2.475)	
Prostate ^b	Yes	No	2518	20	1.22	1(Ref.)		1(Ref.)	
		Yes	1155	9	1.30	1.109(0.504,2.44)		1.425(0.639,3.18)	
Breast ^c	No	No	1122	15	1.94	1(Ref.)	0.9838	1(Ref.)	0.9896

		Yes	122	0	0.00	.	.	
	Yes	No	1846	18	1.52	1(Ref.)	1(Ref.)	
		Yes	164	1	1.02	0.688(0.092,5.153)	0.548(0.072,4.155)	
Ovarian ^c	No	No	1122	3	0.39	1(Ref.)	0.9944	1(Ref.)
		Yes	122	1	1.36	4.017(0.41,39.352)		5.243(0.49,56.049)
	Yes	No	1846	2	0.17	1(Ref.)		1(Ref.)
		Yes	164	0	0.00	.		.
Uterine ^c	No	No	1122	2	0.26	1(Ref.)	0.9918	1(Ref.)
		Yes	122	2	2.74	10.954(1.538,77.997)		9.304(1.234,70.124)
	Yes	No	1846	6	0.51	1(Ref.)		1(Ref.)
		Yes	164	0	0.00	.		.

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for age, sex, low income, smoking, physical activity, DM and dyslipidemia.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

^c Data of female participants were analyzed.

Table S9. Subgroup analysis for incidence rate of cancer in KTRs with dyslipidemia according to alcohol consumption status

	Dyslipidemia	Drink	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	No	No	3029	225	11.59	1(Ref.)	0.8214	1(Ref.)	0.8362
		Yes	897	51	9.41	0.815(0.602,1.105)		0.935(0.683,1.279)	
	Yes	No	3242	255	12.34	1(Ref.)		1(Ref.)	
		Yes	906	55	10.47	0.856(0.639,1.146)		0.977(0.721,1.323)	
Oral cavity, pharyngeal & laryngeal	No	No	3029	6	0.30	1(Ref.)	0.2908	1(Ref.)	0.3523
		Yes	897	1	0.18	0.599(0.072,4.976)		0.526(0.061,4.57)	
	Yes	No	3242	5	0.23	1(Ref.)		1(Ref.)	
		Yes	906	3	0.55	2.374(0.567,9.95)		1.777(0.405,7.795)	
Esophagus	No	No	3029	2	0.10	1(Ref.)	0.3965	1(Ref.)	0.2962
		Yes	897	1	0.18	1.782(0.161,19.673)		3.06(0.245,38.283)	
	Yes	No	3242	1	0.05	1(Ref.)		1(Ref.)	
		Yes	906	2	0.37	7.739(0.7,85.573)		18.965(1.43,251.552)	
Stomach	No	No	3029	21	1.05	1(Ref.)	0.3449	1(Ref.)	0.2583
		Yes	897	9	1.63	1.575(0.721,3.44)		1.925(0.866,4.279)	
	Yes	No	3242	31	1.45	1(Ref.)		1(Ref.)	
		Yes	906	7	1.30	0.913(0.401,2.075)		1(0.43,2.324)	
Colorectal	No	No	3029	22	1.10	1(Ref.)	0.6316	1(Ref.)	0.622
		Yes	897	5	0.90	0.834(0.316,2.204)		1.018(0.372,2.781)	
	Yes	No	3242	21	0.98	1(Ref.)		1(Ref.)	
		Yes	906	6	1.11	1.155(0.466,2.864)		1.423(0.549,3.687)	
Lung	No	No	3029	16	0.80	1(Ref.)	0.5028	1(Ref.)	0.533
		Yes	897	6	1.08	1.357(0.531,3.468)		1.319(0.491,3.544)	
	Yes	No	3242	19	0.89	1(Ref.)		1(Ref.)	

		Yes	906	4	0.74	0.832(0.283,2.448)		0.836(0.272,2.564)	
	No	No	3029	7	0.35	1(Ref.)	0.9043	1(Ref.)	0.8665
		Yes	897	3	0.54	1.546(0.4,5.981)		1.659(0.414,6.64)	
Liver	Yes	No	3242	17	0.79	1(Ref.)		1(Ref.)	
		Yes	906	6	1.11	1.398(0.55,3.551)		1.44(0.536,3.873)	
	No	No	3029	8	0.40	1(Ref.)	0.7913	1(Ref.)	0.8393
		Yes	897	1	0.18	0.448(0.056,3.582)		0.599(0.071,5.052)	
Pancreatic	Yes	No	3242	13	0.61	1(Ref.)		1(Ref.)	
		Yes	906	1	0.18	0.302(0.04,2.314)		0.443(0.054,3.608)	
	No	No	3029	33	1.65	1(Ref.)	0.6639	1(Ref.)	0.785
		Yes	897	5	0.90	0.538(0.21,1.377)		0.711(0.271,1.866)	
Thyroid	Yes	No	3242	39	1.83	1(Ref.)		1(Ref.)	
		Yes	906	4	0.74	0.395(0.141,1.105)		0.586(0.203,1.689)	
	No	No	3029	6	0.30	1(Ref.)	0.5863	1(Ref.)	0.5903
		Yes	897	1	0.18	0.598(0.072,4.973)		0.761(0.088,6.601)	
Biliary	Yes	No	3242	10	0.47	1(Ref.)		1(Ref.)	
		Yes	906	3	0.55	1.191(0.327,4.34)		1.506(0.382,5.944)	
	No	No	3029	32	1.60	1(Ref.)	0.8016	1(Ref.)	0.6979
		Yes	897	8	1.45	0.916(0.422,1.988)		0.829(0.374,1.833)	
Renal or bladder	Yes	No	3242	50	2.35	1(Ref.)		1(Ref.)	
		Yes	906	10	1.86	0.802(0.407,1.583)		0.675(0.335,1.362)	
	No	No	1701	17	1.50	1(Ref.)	0.0274	1(Ref.)	0.0316
		Yes	742	1	0.22	0.15(0.02,1.127)		0.192(0.025,1.458)	
Prostate ^b	Yes	No	1602	12	1.14	1(Ref.)		1(Ref.)	
		Yes	775	9	1.94	1.77(0.744,4.208)		2.139(0.893,5.123)	
Breast ^c	No	No	1328	17	1.96	1(Ref.)	0.9844	1(Ref.)	0.9897

Ovarian ^c	Yes	Yes	155	1	1.04	0.539(0.072,4.048)		0.463(0.061,3.508)	
		No	1640	16	1.47	1(Ref.)		1(Ref.)	
		Yes	131	0	0.00	.		.	
	No	No	1328	1	0.11	1(Ref.)	0.994	1(Ref.)	0.9974
		Yes	155	1	1.04	9.071(0.567,145.113)		11.254(0.66,191.843)	
		No	1640	4	0.37	1(Ref.)		1(Ref.)	
Uterine ^c	Yes	Yes	131	0	0.00	.		.	
		No	1328	2	0.23	1(Ref.)	0.7011	1(Ref.)	0.6822
		Yes	155	1	1.04	4.657(0.422,51.379)		3.852(0.338,43.932)	
		No	1640	6	0.55	1(Ref.)		1(Ref.)	
		Yes	131	1	1.33	2.488(0.299,20.706)		1.973(0.226,17.229)	

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for age, sex, low income, smoking, physical activity, DM and HTN.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

^c Data of female participants were analyzed.

Table S10. Subgroup analysis for incidence rate of cancer in KTRs with obesity according to alcohol consumption status

	Obesity	Drink	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	No	No	4730	358	11.72	1(Ref.)	0.3348	1(Ref.)	0.3735
		Yes	1192	75	10.38	0.89(0.694,1.142)		1.017(0.784,1.32)	
	Yes	No	1541	122	12.82	1(Ref.)		1(Ref.)	
		Yes	611	31	9.00	0.708(0.477,1.05)		0.823(0.55,1.232)	
Oral cavity, pharyngeal & laryngeal	No	No	4730	6	0.19	1(Ref.)	0.3085	1(Ref.)	0.3286
		Yes	1192	3	0.40	2.115(0.529,8.463)		1.71(0.408,7.174)	
	Yes	No	1541	5	0.51	1(Ref.)		1(Ref.)	
		Yes	611	1	0.28	0.561(0.065,4.805)		0.478(0.054,4.248)	
Esophagus	No	No	4730	3	0.09	1(Ref.)	0.9939	1(Ref.)	0.999
		Yes	1192	1	0.13	1.391(0.145,13.391)		2.29(0.205,25.614)	
	Yes	No	1541	0	0.00	1(Ref.)		1(Ref.)	
		Yes	611	2	0.57	.		.	
Stomach	No	No	4730	37	1.17	1(Ref.)	0.6359	1(Ref.)	0.7381
		Yes	1192	11	1.48	1.284(0.654,2.517)		1.456(0.727,2.918)	
	Yes	No	1541	15	1.52	1(Ref.)		1(Ref.)	
		Yes	611	5	1.42	0.957(0.347,2.635)		1.183(0.421,3.323)	
Colorectal	No	No	4730	29	0.92	1(Ref.)	0.3749	1(Ref.)	0.3953
		Yes	1192	8	1.08	1.192(0.544,2.608)		1.446(0.634,3.298)	
	Yes	No	1541	14	1.42	1(Ref.)		1(Ref.)	
		Yes	611	3	0.85	0.612(0.176,2.131)		0.763(0.212,2.746)	
Lung	No	No	4730	25	0.79	1(Ref.)	0.1298	1(Ref.)	0.139
		Yes	1192	9	1.21	1.528(0.713,3.275)		1.495(0.66,3.391)	
	Yes	No	1541	10	1.01	1(Ref.)		1(Ref.)	

		Yes	611	1	0.28	0.281(0.036,2.193)		0.286(0.036,2.285)	
	No	No	4730	16	0.51	1(Ref.)	0.114	1(Ref.)	0.1305
		Yes	1192	8	1.07	2.128(0.91,4.976)		2.219(0.9,5.469)	
Liver	Yes	No	1541	8	0.81	1(Ref.)		1(Ref.)	
		Yes	611	1	0.28	0.348(0.043,2.783)		0.392(0.048,3.232)	
	No	No	4730	14	0.44	1(Ref.)	0.8506	1(Ref.)	0.8007
		Yes	1192	1	0.13	0.301(0.04,2.291)		0.423(0.053,3.394)	
Pancreatic	Yes	No	1541	7	0.71	1(Ref.)		1(Ref.)	
		Yes	611	1	0.28	0.399(0.049,3.244)		0.615(0.071,5.329)	
	No	No	4730	54	1.72	1(Ref.)	0.9835	1(Ref.)	0.9347
		Yes	1192	6	0.81	0.462(0.199,1.075)		0.631(0.265,1.504)	
Thyroid	Yes	No	1541	18	1.83	1(Ref.)		1(Ref.)	
		Yes	611	3	0.85	0.455(0.134,1.546)		0.671(0.192,2.353)	
	No	No	4730	9	0.28	1(Ref.)	0.3138	1(Ref.)	0.3322
		Yes	1192	3	0.40	1.417(0.383,5.242)		1.786(0.453,7.036)	
Biliary	Yes	No	1541	7	0.71	1(Ref.)		1(Ref.)	
		Yes	611	1	0.28	0.398(0.049,3.243)		0.525(0.061,4.522)	
	No	No	4730	58	1.84	1(Ref.)	0.4031	1(Ref.)	0.3808
		Yes	1192	13	1.75	0.963(0.527,1.758)		0.853(0.457,1.591)	
Renal or bladder	Yes	No	1541	24	2.44	1(Ref.)		1(Ref.)	
		Yes	611	5	1.43	0.593(0.226,1.555)		0.513(0.192,1.369)	
	No	No	2407	25	1.55	1(Ref.)	0.2226	1(Ref.)	0.1968
		Yes	964	6	0.99	0.663(0.271,1.617)		0.807(0.328,1.987)	
Prostate ^b	Yes	No	896	4	0.70	1(Ref.)		1(Ref.)	
		Yes	553	4	1.26	1.847(0.462,7.395)		2.392(0.591,9.679)	
Breast ^c	No	No	2323	31	2.02	1(Ref.)	0.991	1(Ref.)	0.9908

Ovarian ^c	Yes	Yes	228	1	0.72	0.369(0.05,2.705)		0.317(0.043,2.357)	
		No	645	2	0.48	1(Ref.)		1(Ref.)	
		Yes	58	0	0.00	.		.	
	No	No	2323	3	0.19	1(Ref.)	0.9929	1(Ref.)	0.9981
		Yes	228	1	0.72	3.952(0.409,38.173)		5.504(0.497,60.896)	
		No	645	2	0.48	1(Ref.)		1(Ref.)	
	Yes	Yes	58	0	0.00	.		.	
		No	2323	7	0.45	1(Ref.)	0.9918	1(Ref.)	0.9948
Uterine ^c	Yes	Yes	228	2	1.45	3.295(0.684,15.876)		2.893(0.561,14.908)	
		No	645	1	0.24	1(Ref.)		1(Ref.)	
		Yes	58	0	0.00	.		.	

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for age, sex, low income, smoking, physical activity, DM, HTN and dyslipidemia.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

^c Data of female participants were analyzed.

Table S11. Subgroup analysis for incidence rate of cancer in KTRs aged ≥ 40 years according to physical activity status

	Age	Exercise	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	40-49	No	1304	80	10.06	1(Ref.)	0.115	1(Ref.)	0.0867
		Yes	1487	76	7.92	0.781(0.57,1.069)		0.767(0.56,1.052)	
	≥ 50	No	1817	173	15.69	1(Ref.)		1(Ref.)	
		Yes	1896	199	16.62	1.055(0.861,1.294)		1.065(0.867,1.308)	
Oral cavity, pharyngeal & laryngeal	40-49	No	1304	0	0.00	1(Ref.)	1	1(Ref.)	1
		Yes	1487	0	0.00	.		.	
	≥ 50	No	1817	7	0.61	1(Ref.)		1(Ref.)	
		Yes	1896	7	0.56	0.921(0.323,2.627)		0.843(0.293,2.423)	
Esophagus	40-49	No	1304	0	0.00	1(Ref.)	1	1(Ref.)	1
		Yes	1487	0	0.00	.		.	
	≥ 50	No	1817	3	0.26	1(Ref.)		1(Ref.)	
		Yes	1896	3	0.24	0.932(0.188,4.616)		0.807(0.151,4.311)	
Stomach	40-49	No	1304	4	0.49	1(Ref.)	0.6759	1(Ref.)	0.6355
		Yes	1487	6	0.61	1.228(0.346,4.352)		1.116(0.314,3.971)	
	≥ 50	No	1817	20	1.75	1(Ref.)		1(Ref.)	
		Yes	1896	36	2.90	1.648(0.953,2.847)		1.558(0.897,2.706)	
Colorectal	40-49	No	1304	7	0.86	1(Ref.)	0.6196	1(Ref.)	0.5829
		Yes	1487	8	0.81	0.922(0.334,2.545)		0.926(0.334,2.569)	
	≥ 50	No	1817	16	1.39	1(Ref.)		1(Ref.)	
		Yes	1896	22	1.76	1.25(0.656,2.381)		1.297(0.677,2.484)	
Lung	40-49	No	1304	4	0.49	1(Ref.)	0.6414	1(Ref.)	0.5778
		Yes	1487	3	0.30	0.622(0.139,2.781)		0.577(0.129,2.591)	
	≥ 50	No	1817	19	1.66	1(Ref.)		1(Ref.)	

		Yes	1896	19	1.52	0.916(0.485,1.73)		0.917(0.483,1.741)	
	40-49	No	1304	0	0.00	1(Ref.)	0.9861	1(Ref.)	0.9863
Liver		Yes	1487	3	0.30	.		.	
	≥50	No	1817	15	1.31	1(Ref.)		1(Ref.)	
		Yes	1896	13	1.04	0.792(0.377,1.666)		0.739(0.349,1.562)	
	40-49	No	1304	1	0.12	1(Ref.)	0.9877	1(Ref.)	0.9877
Pancreatic		Yes	1487	0	0.00	.		.	
	≥50	No	1817	9	0.78	1(Ref.)		1(Ref.)	
		Yes	1896	13	1.04	1.323(0.565,3.097)		1.497(0.635,3.529)	
	40-49	No	1304	20	2.46	1(Ref.)	0.3851	1(Ref.)	0.3722
Thyroid		Yes	1487	10	1.02	0.42(0.197,0.897)		0.465(0.217,0.997)	
	≥50	No	1817	18	1.57	1(Ref.)		1(Ref.)	
		Yes	1896	13	1.04	0.666(0.326,1.36)		0.748(0.365,1.531)	
	40-49	No	1304	0	0.00	1(Ref.)	0.9887	1(Ref.)	0.99
Biliary		Yes	1487	3	0.30	.		.	
	≥50	No	1817	7	0.61	1(Ref.)		1(Ref.)	
		Yes	1896	10	0.80	1.296(0.493,3.409)		1.355(0.51,3.6)	
	40-49	No	1304	17	2.09	1(Ref.)	0.3445	1(Ref.)	0.3764
Renal or bladder		Yes	1487	17	1.73	0.816(0.416,1.598)		0.801(0.407,1.577)	
	≥50	No	1817	22	1.92	1(Ref.)		1(Ref.)	
		Yes	1896	30	2.41	1.24(0.715,2.15)		1.186(0.682,2.063)	
	40-49	No	703	0	0.00	1(Ref.)	0.9858	1(Ref.)	0.988
Prostate ^b		Yes	916	3	0.49	.		.	
	≥50	No	948	16	2.74	1(Ref.)		1(Ref.)	
		Yes	1197	18	2.35	0.845(0.431,1.658)		0.835(0.424,1.642)	
Breast ^c	40-49	No	601	8	2.11	1(Ref.)	0.994	1(Ref.)	0.9911

		Yes	571	9	2.42	1.144(0.441,2.965)		1.232(0.473,3.212)	
	≥50	No	869	5	0.89	1(Ref.)		1(Ref.)	
		Yes	699	5	1.03	1.15(0.333,3.978)		1.221(0.352,4.237)	
Ovarian ^c	40-49	No	601	1	0.26	1(Ref.)	0.9928	1(Ref.)	0.9955
		Yes	571	1	0.27	0.902(0.056,14.519)		0.797(0.049,13.033)	
	≥50	No	869	3	0.53	1(Ref.)		1(Ref.)	
		Yes	699	0	0.00	.		.	
Uterine ^c	40-49	No	601	3	0.79	1(Ref.)	0.9357	1(Ref.)	0.9344
		Yes	571	3	0.80	1.044(0.211,5.171)		0.975(0.196,4.86)	
	≥50	No	869	1	0.18	1(Ref.)		1(Ref.)	
		Yes	699	1	0.21	1.191(0.074,19.04)		1.116(0.069,17.945)	

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for age, sex, low income, smoking, alcohol consumption, DM, HTN and dyslipidemia.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

^c Data of female participants were analyzed.

Table S12. Subgroup analysis for incidence rate of cancer in KTRs with DM according to physical activity status

	DM	Exercise	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	No	No	2667	188	11.23	1(Ref.)	0.3437	1(Ref.)	0.2932
		Yes	2991	201	10.43	0.927(0.76,1.131)		0.941(0.77,1.15)	
	Yes	No	1167	88	12.72	1(Ref.)		1(Ref.)	
		Yes	1249	109	13.98	1.094(0.826,1.45)		1.132(0.854,1.501)	
Oral cavity, pharyngeal & laryngeal	No	No	2667	4	0.23	1(Ref.)	0.4838	1(Ref.)	0.5264
		Yes	2991	6	0.30	1.304(0.368,4.621)		1.207(0.338,4.313)	
	Yes	No	1167	3	0.42	1(Ref.)		1(Ref.)	
		Yes	1249	2	0.25	0.596(0.1,3.568)		0.594(0.099,3.569)	
Esophagus	No	No	2667	0	0.00	1(Ref.)	1	1(Ref.)	1
		Yes	2991	0	0.00	.		.	
	Yes	No	1167	3	0.42	1(Ref.)		1(Ref.)	
		Yes	1249	3	0.37	0.9(0.181,4.459)		0.852(0.16,4.545)	
Stomach	No	No	2667	13	0.75	1(Ref.)	0.5797	1(Ref.)	0.6309
		Yes	2991	24	1.21	1.595(0.812,3.133)		1.529(0.775,3.018)	
	Yes	No	1167	13	1.82	1(Ref.)		1(Ref.)	
		Yes	1249	18	2.23	1.209(0.592,2.468)		1.201(0.586,2.462)	
Colorectal	No	No	2667	14	0.81	1(Ref.)	0.6065	1(Ref.)	0.5951
		Yes	2991	21	1.06	1.296(0.659,2.548)		1.393(0.704,2.756)	
	Yes	No	1167	9	1.26	1(Ref.)		1(Ref.)	
		Yes	1249	10	1.24	0.964(0.391,2.373)		1.026(0.415,2.535)	
Lung	No	No	2667	16	0.93	1(Ref.)	0.4488	1(Ref.)	0.4142
		Yes	2991	13	0.65	0.705(0.339,1.466)		0.717(0.343,1.5)	
	Yes	No	1167	7	0.98	1(Ref.)		1(Ref.)	

		Yes	1249	9	1.11	1.134(0.422,3.047)		1.198(0.445,3.225)	
	No	No	2667	7	0.40	1(Ref.)	0.6227	1(Ref.)	0.6885
		Yes	2991	10	0.50	1.239(0.472,3.256)		1.162(0.44,3.069)	
Liver	Yes	No	1167	8	1.12	1(Ref.)		1(Ref.)	
		Yes	1249	8	0.99	0.877(0.329,2.339)		0.877(0.327,2.348)	
	No	No	2667	5	0.29	1(Ref.)	0.8384	1(Ref.)	0.8077
		Yes	2991	6	0.30	1.039(0.317,3.405)		1.22(0.369,4.03)	
Pancreatic	Yes	No	1167	5	0.70	1(Ref.)		1(Ref.)	
		Yes	1249	7	0.86	1.234(0.391,3.89)		1.498(0.473,4.743)	
	No	No	2667	33	1.92	1(Ref.)	0.8648	1(Ref.)	0.8766
		Yes	2991	26	1.31	0.687(0.411,1.149)		0.779(0.464,1.306)	
Thyroid	Yes	No	1167	12	1.68	1(Ref.)		1(Ref.)	
		Yes	1249	10	1.24	0.749(0.323,1.733)		0.842(0.363,1.953)	
	No	No	2667	6	0.35	1(Ref.)	0.2788	1(Ref.)	0.2711
		Yes	2991	8	0.40	1.153(0.4,3.325)		1.235(0.423,3.603)	
Biliary	Yes	No	1167	1	0.14	1(Ref.)		1(Ref.)	
		Yes	1249	5	0.62	4.329(0.506,37.064)		4.74(0.552,40.735)	
	No	No	2667	34	1.98	1(Ref.)	0.5269	1(Ref.)	0.4505
		Yes	2991	44	2.22	1.12(0.716,1.752)		1.052(0.67,1.651)	
Renal or bladder	Yes	No	1167	8	1.12	1(Ref.)		1(Ref.)	
		Yes	1249	14	1.73	1.535(0.644,3.659)		1.533(0.642,3.659)	
	No	No	1361	9	1.02	1(Ref.)	0.6082	1(Ref.)	0.7201
		Yes	1855	15	1.22	1.202(0.526,2.746)		1.156(0.505,2.648)	
Prostate ^b	Yes	No	721	7	1.63	1(Ref.)		1(Ref.)	
		Yes	883	8	1.43	0.853(0.309,2.355)		0.91(0.329,2.52)	
Breast ^c	No	No	1306	17	2.03	1(Ref.)	0.1354	1(Ref.)	0.1428

Ovarian ^c	Yes	Yes	1136	12	1.58	0.772(0.369,1.618)		0.838(0.399,1.757)	
		No	446	1	0.35	1(Ref.)		1(Ref.)	
		Yes	366	4	1.62	4.498(0.502,40.259)		4.726(0.528,42.335)	
	No	No	1306	4	0.48	1(Ref.)	0.9952	1(Ref.)	0.9954
		Yes	1136	1	0.13	0.258(0.029,2.319)		0.257(0.028,2.317)	
		No	446	1	0.35	1(Ref.)		1(Ref.)	
		Yes	366	0	0.00	.		.	
Uterine ^c	No	No	1306	5	0.59	1(Ref.)	0.9933	1(Ref.)	0.9934
		Yes	1136	4	0.52	0.89(0.239,3.315)		0.834(0.223,3.113)	
	Yes	No	446	1	0.35	1(Ref.)		1(Ref.)	
		Yes	366	0	0.00	.		.	

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for age, sex, low income, smoking, alcohol consumption, HTN and dyslipidemia.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

^c Data of female participants were analyzed.

Table S13. Subgroup analysis for incidence rate of cancer in KTRs with HTN according to physical activity status

	HTN	Exercise	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	No	No	1185	91	11.75	1.039(0.776,1.39)	0.8943	1.035(0.772,1.386)	0.7718
		Yes	1206	90	11.33	1(Ref.)		1(Ref.)	
	Yes	No	2649	185	11.62	1.014(0.834,1.233)		0.982(0.807,1.196)	
		Yes	3034	220	11.50	1(Ref.)		1(Ref.)	
Oral cavity, pharyngeal & laryngeal	No	No	1185	0	0.00	1(Ref.)	0.9904	1(Ref.)	0.9901
		Yes	1206	2	0.24	.		.	
	Yes	No	2649	7	0.43	1(Ref.)		1(Ref.)	
		Yes	3034	6	0.30	0.716(0.241,2.131)		0.706(0.236,2.115)	
Esophagus	No	No	1185	1	0.12	1(Ref.)	0.3759	1(Ref.)	0.3704
		Yes	1206	2	0.24	1.953(0.177,21.544)		1.896(0.158,22.763)	
	Yes	No	2649	2	0.12	1(Ref.)		1(Ref.)	
		Yes	3034	1	0.05	0.421(0.038,4.648)		0.397(0.035,4.52)	
Stomach	No	No	1185	5	0.63	1(Ref.)	0.0605	1(Ref.)	0.0704
		Yes	1206	16	1.95	3.093(1.133,8.444)		2.944(1.074,8.074)	
	Yes	No	2649	21	1.28	1(Ref.)		1(Ref.)	
		Yes	3034	26	1.32	1.021(0.574,1.815)		1.011(0.566,1.803)	
Colorectal	No	No	1185	9	1.13	1(Ref.)	0.81	1(Ref.)	0.8398
		Yes	1206	12	1.46	1.282(0.54,3.043)		1.339(0.561,3.194)	
	Yes	No	2649	14	0.85	1(Ref.)		1(Ref.)	
		Yes	3034	19	0.96	1.119(0.561,2.233)		1.194(0.596,2.393)	
Lung	No	No	1185	8	1.00	1(Ref.)	0.9757	1(Ref.)	0.9527
		Yes	1206	7	0.85	0.848(0.307,2.338)		0.883(0.318,2.453)	
	Yes	No	2649	15	0.91	1(Ref.)		1(Ref.)	

		Yes	3034	15	0.76	0.832(0.407,1.702)		0.851(0.414,1.746)	
	No	No	1185	5	0.62	1(Ref.)	0.5994	1(Ref.)	0.5705
		Yes	1206	4	0.48	0.77(0.207,2.868)		0.731(0.195,2.743)	
Liver	Yes	No	2649	10	0.61	1(Ref.)		1(Ref.)	
		Yes	3034	14	0.71	1.165(0.517,2.624)		1.145(0.506,2.589)	
	No	No	1185	3	0.37	1(Ref.)	0.8202	1(Ref.)	0.8363
		Yes	1206	3	0.36	0.958(0.193,4.749)		1.174(0.235,5.861)	
Pancreatic	Yes	No	2649	7	0.42	1(Ref.)		1(Ref.)	
		Yes	3034	10	0.51	1.19(0.453,3.128)		1.431(0.541,3.787)	
	No	No	1185	22	2.77	1(Ref.)	0.2769	1(Ref.)	0.2776
		Yes	1206	12	1.46	0.531(0.263,1.073)		0.591(0.292,1.195)	
Thyroid	Yes	No	2649	23	1.40	1(Ref.)		1(Ref.)	
		Yes	3034	24	1.22	0.878(0.496,1.556)		0.976(0.549,1.736)	
	No	No	1185	2	0.25	1(Ref.)	0.3708	1(Ref.)	0.3328
		Yes	1206	6	0.73	2.856(0.576,14.154)		3.19(0.636,15.997)	
Biliary	Yes	No	2649	5	0.30	1(Ref.)		1(Ref.)	
		Yes	3034	7	0.35	1.162(0.369,3.662)		1.203(0.379,3.813)	
	No	No	1185	10	1.25	1(Ref.)	0.2549	1(Ref.)	0.2664
		Yes	1206	18	2.20	1.744(0.805,3.778)		1.653(0.762,3.59)	
Renal or bladder	Yes	No	2649	32	1.95	1(Ref.)		1(Ref.)	
		Yes	3034	40	2.03	1.033(0.649,1.644)		0.991(0.621,1.582)	
	No	No	497	8	2.38	1(Ref.)	0.0107	1(Ref.)	0.0077
		Yes	650	2	0.46	0.192(0.041,0.905)		0.178(0.038,0.843)	
Prostate ^b	Yes	No	1585	8	0.82	1(Ref.)		1(Ref.)	
		Yes	2088	21	1.55	1.881(0.833,4.247)		1.937(0.855,4.387)	
Breast ^c	No	No	688	8	1.74	1(Ref.)	0.9097	1(Ref.)	0.9428

		Yes	556	7	1.80	1.028(0.373,2.836)		1.084(0.393,2.993)	
	Yes	No	1064	10	1.51	1(Ref.)		1(Ref.)	
		Yes	946	9	1.46	0.95(0.386,2.34)		1.032(0.418,2.544)	
Ovarian ^c	No	No	688	3	0.65	1(Ref.)	0.9932	1(Ref.)	0.9932
		Yes	556	1	0.26	0.361(0.037,3.484)		0.349(0.036,3.385)	
	Yes	No	1064	2	0.30	1(Ref.)		1(Ref.)	
		Yes	946	0	0.00	.		.	
Uterine ^c	No	No	688	3	0.65	1(Ref.)	0.4821	1(Ref.)	0.5026
		Yes	556	1	0.26	0.398(0.041,3.829)		0.382(0.04,3.674)	
	Yes	No	1064	3	0.45	1(Ref.)		1(Ref.)	
		Yes	946	3	0.48	1.076(0.217,5.334)		0.986(0.198,4.901)	

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for age, sex, low income, smoking, alcohol consumption, DM and dyslipidemia.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

^c Data of female participants were analyzed.

Table S14. Subgroup analysis for incidence rate of cancer in KTRs with dyslipidemia according to physical activity status

	Dyslipidemia	Exercise	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	No	No	1867	132	11.43	1(Ref.)	0.6885	1(Ref.)	0.6988
		Yes	2059	144	10.84	0.945(0.747,1.197)		0.968(0.764,1.228)	
	Yes	No	1967	144	11.88	1(Ref.)		1(Ref.)	
		Yes	2181	166	12.03	1.01(0.808,1.263)		1.032(0.825,1.292)	
Oral cavity, pharyngeal & laryngeal	No	No	1867	3	0.25	1(Ref.)	0.7919	1(Ref.)	0.7569
		Yes	2059	4	0.29	1.161(0.26,5.188)		1.13(0.251,5.082)	
	Yes	No	1967	4	0.32	1(Ref.)		1(Ref.)	
		Yes	2181	4	0.28	0.882(0.221,3.528)		0.819(0.204,3.294)	
Esophagus	No	No	1867	2	0.17	1(Ref.)	0.4193	1(Ref.)	0.3684
		Yes	2059	1	0.07	0.438(0.04,4.833)		0.387(0.033,4.539)	
	Yes	No	1967	1	0.08	1(Ref.)		1(Ref.)	
		Yes	2181	2	0.14	1.775(0.161,19.577)		1.851(0.161,21.307)	
Stomach	No	No	1867	9	0.76	1(Ref.)	0.2319	1(Ref.)	0.2347
		Yes	2059	21	1.53	2.002(0.917,4.372)		1.949(0.888,4.274)	
	Yes	No	1967	17	1.36	1(Ref.)		1(Ref.)	
		Yes	2181	21	1.48	1.082(0.571,2.05)		1.056(0.555,2.011)	
Colorectal	No	No	1867	10	0.84	1(Ref.)	0.4244	1(Ref.)	0.4282
		Yes	2059	17	1.24	1.46(0.668,3.19)		1.562(0.711,3.431)	
	Yes	No	1967	13	1.04	1(Ref.)		1(Ref.)	
		Yes	2181	14	0.98	0.938(0.441,1.995)		1.007(0.471,2.151)	
Lung	No	No	1867	11	0.93	1(Ref.)	0.9055	1(Ref.)	0.8555
		Yes	2059	11	0.80	0.865(0.375,1.995)		0.911(0.393,2.111)	
	Yes	No	1967	12	0.96	1(Ref.)		1(Ref.)	

		Yes	2181	11	0.77	0.806(0.356,1.826)		0.817(0.359,1.859)	
	No	No	1867	6	0.50	1(Ref.)	0.2631	1(Ref.)	0.2727
		Yes	2059	4	0.29	0.575(0.162,2.037)		0.561(0.157,1.999)	
Liver	Yes	No	1967	9	0.72	1(Ref.)		1(Ref.)	
		Yes	2181	14	0.98	1.367(0.592,3.158)		1.312(0.565,3.048)	
	No	No	1867	4	0.34	1(Ref.)	0.9265	1(Ref.)	0.9409
		Yes	2059	5	0.36	1.08(0.29,4.022)		1.306(0.348,4.895)	
Pancreatic	Yes	No	1967	6	0.48	1(Ref.)		1(Ref.)	
		Yes	2181	8	0.56	1.169(0.406,3.369)		1.392(0.48,4.041)	
	No	No	1867	23	1.94	1(Ref.)	0.3897	1(Ref.)	0.4183
		Yes	2059	15	1.10	0.572(0.298,1.096)		0.654(0.34,1.256)	
Thyroid	Yes	No	1967	22	1.76	1(Ref.)		1(Ref.)	
		Yes	2181	21	1.48	0.843(0.463,1.533)		0.942(0.516,1.718)	
	No	No	1867	2	0.17	1(Ref.)	0.6781	1(Ref.)	0.6363
		Yes	2059	5	0.36	2.134(0.414,11.008)		2.388(0.459,12.432)	
Biliary	Yes	No	1967	5	0.40	1(Ref.)		1(Ref.)	
		Yes	2181	8	0.56	1.402(0.459,4.287)		1.479(0.48,4.559)	
	No	No	1867	18	1.52	1(Ref.)	0.5933	1(Ref.)	0.6461
		Yes	2059	22	1.61	1.053(0.565,1.964)		1.019(0.545,1.905)	
Renal or bladder	Yes	No	1967	24	1.92	1(Ref.)		1(Ref.)	
		Yes	2181	36	2.54	1.313(0.783,2.2)		1.232(0.733,2.072)	
	No	No	1060	9	1.34	1(Ref.)	0.2797	1(Ref.)	0.3188
		Yes	1383	9	0.98	0.722(0.286,1.818)		0.745(0.294,1.885)	
Prostate ^b	Yes	No	1022	7	1.09	1(Ref.)		1(Ref.)	
		Yes	1355	14	1.61	1.474(0.595,3.652)		1.44(0.58,3.572)	
Breast ^c	No	No	807	10	1.95	1(Ref.)	0.7782	1(Ref.)	0.8098

Ovarian ^c	Yes	Yes	676	8	1.77	0.895(0.353,2.269)		0.975(0.384,2.474)	
		No	945	8	1.32	1(Ref.)		1(Ref.)	
		Yes	826	8	1.45	1.087(0.408,2.898)		1.151(0.431,3.072)	
	No	No	807	2	0.39	1(Ref.)	0.9935	1(Ref.)	0.9933
		Yes	676	0	0.00	.		.	
		No	945	3	0.49	1(Ref.)		1(Ref.)	
	Yes	Yes	826	1	0.18	0.343(0.036,3.303)		0.346(0.036,3.347)	
		No	807	2	0.39	1(Ref.)	0.7892	1(Ref.)	0.8192
		Yes	676	1	0.22	0.567(0.051,6.256)		0.551(0.05,6.093)	
Uterine ^c	Yes	No	945	4	0.65	1(Ref.)		1(Ref.)	
		Yes	826	3	0.54	0.834(0.187,3.729)		0.767(0.171,3.435)	

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for age, sex, low income, smoking, alcohol consumption, DM and HTN.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

^c Data of female participants were analyzed.

Table S15. Subgroup analysis for incidence rate of cancer in KTRs with obesity according to physical activity status

	Obesity	Exercise	N	Event	IR ^a	Model 1 Adjusted HR (95% CI)	p for interaction	Model 3 Adjusted HR (95% CI)	p for interaction
Any cancer	No	No	2822	206	11.63	1(Ref.)	0.8379	1(Ref.)	0.691
		Yes	3100	227	11.31	0.969(0.803,1.171)		0.982(0.812,1.188)	
	Yes	No	1012	70	11.74	1(Ref.)		1(Ref.)	
		Yes	1140	83	11.85	1.007(0.733,1.385)		1.059(0.769,1.458)	
Oral cavity, pharyngeal & laryngeal	No	No	2822	2	0.11	1(Ref.)	0.032	1(Ref.)	0.0316
		Yes	3100	7	0.34	3.106(0.645,14.952)		2.956(0.611,14.298)	
	Yes	No	1012	5	0.81	1(Ref.)		1(Ref.)	
		Yes	1140	1	0.14	0.169(0.02,1.446)		0.159(0.018,1.372)	
Esophagus	No	No	2822	1	0.05	1(Ref.)	0.9914	1(Ref.)	0.9966
		Yes	3100	3	0.14	2.672(0.278,25.691)		2.557(0.247,26.438)	
	Yes	No	1012	2	0.32	1(Ref.)		1(Ref.)	
		Yes	1140	0	0.00	.		.	
Stomach	No	No	2822	19	1.04	1(Ref.)	0.7688	1(Ref.)	0.6687
		Yes	3100	29	1.40	1.334(0.748,2.38)		1.278(0.713,2.289)	
	Yes	No	1012	7	1.14	1(Ref.)		1(Ref.)	
		Yes	1140	13	1.80	1.57(0.626,3.935)		1.62(0.643,4.082)	
Colorectal	No	No	2822	13	0.71	1(Ref.)	0.0969	1(Ref.)	0.112
		Yes	3100	24	1.16	1.608(0.819,3.159)		1.705(0.864,3.366)	
	Yes	No	1012	10	1.63	1(Ref.)		1(Ref.)	
		Yes	1140	7	0.97	0.593(0.226,1.557)		0.655(0.248,1.731)	
Lung	No	No	2822	17	0.93	1(Ref.)	0.7499	1(Ref.)	0.6957
		Yes	3100	17	0.82	0.881(0.45,1.726)		0.923(0.468,1.818)	
	Yes	No	1012	6	0.98	1(Ref.)		1(Ref.)	

		Yes	1140	5	0.69	0.706(0.215,2.312)		0.702(0.213,2.314)	
	No	No	2822	12	0.66	1(Ref.)	0.4185	1(Ref.)	0.3695
		Yes	3100	12	0.58	0.878(0.394,1.955)		0.834(0.373,1.866)	
Liver	Yes	No	1012	3	0.49	1(Ref.)		1(Ref.)	
		Yes	1140	6	0.83	1.699(0.425,6.795)		1.737(0.432,6.986)	
	No	No	2822	6	0.33	1(Ref.)	0.6165	1(Ref.)	0.6898
		Yes	3100	9	0.43	1.317(0.469,3.703)		1.542(0.545,4.363)	
Pancreatic	Yes	No	1012	4	0.65	1(Ref.)		1(Ref.)	
		Yes	1140	4	0.55	0.847(0.212,3.387)		1.084(0.269,4.366)	
	No	No	2822	36	1.98	1(Ref.)	0.2023	1(Ref.)	0.2044
		Yes	3100	24	1.16	0.592(0.353,0.993)		0.67(0.398,1.126)	
Thyroid	Yes	No	1012	9	1.47	1(Ref.)		1(Ref.)	
		Yes	1140	12	1.66	1.14(0.48,2.706)		1.287(0.541,3.062)	
	No	No	2822	3	0.16	1(Ref.)	0.2483	1(Ref.)	0.2704
		Yes	3100	9	0.43	2.61(0.706,9.644)		2.78(0.747,10.346)	
Biliary	Yes	No	1012	4	0.65	1(Ref.)		1(Ref.)	
		Yes	1140	4	0.55	0.85(0.213,3.398)		0.95(0.234,3.856)	
	No	No	2822	32	1.76	1(Ref.)	0.3723	1(Ref.)	0.3428
		Yes	3100	39	1.89	1.068(0.669,1.705)		1.011(0.632,1.618)	
Renal or bladder	Yes	No	1012	10	1.63	1(Ref.)		1(Ref.)	
		Yes	1140	19	2.64	1.606(0.747,3.455)		1.561(0.724,3.368)	
	No	No	1456	15	1.59	1(Ref.)	0.0951	1(Ref.)	0.1036
		Yes	1915	16	1.25	0.778(0.384,1.574)		0.791(0.39,1.604)	
Prostate ^b	Yes	No	626	1	0.27	1(Ref.)		1(Ref.)	
		Yes	823	7	1.37	5.109(0.629,41.521)		4.966(0.609,40.473)	
Breast ^c	No	No	1366	17	1.93	1(Ref.)	0.9297	1(Ref.)	0.9556

Ovarian ^c	Yes	Yes	1185	15	1.89	0.971(0.485,1.946)		1.054(0.525,2.116)	
		No	386	1	0.42	1(Ref.)		1(Ref.)	
		Yes	317	1	0.47	1.105(0.069,17.667)		1.144(0.071,18.318)	
	No	No	1366	3	0.34	1(Ref.)	0.9937	1(Ref.)	0.9937
		Yes	1185	1	0.13	0.346(0.036,3.342)		0.35(0.036,3.393)	
		No	386	2	0.83	1(Ref.)		1(Ref.)	
	Yes	Yes	317	0	0.00	.		.	
		No	1366	6	0.68	1(Ref.)	0.9931	1(Ref.)	0.9934
		Yes	1185	3	0.38	0.56(0.14,2.239)		0.527(0.132,2.114)	
Uterine ^c	Yes	No	386	0	0.00	1(Ref.)		1(Ref.)	
		Yes	317	1	0.47	.		.	

CI, confidence interval; DM, diabetes mellitus; HR, hazard ratio; HTN, hypertension; IR, incidence rate; KTRs, kidney transplant recipients.

Model 1 was not adjusted for any variable. Model 3 was adjusted for age, sex, low income, smoking, alcohol consumption, DM, HTN and dyslipidemia.

^a Incidence rate is presented as per 1,000 person-years.

^b Data of male participants were analyzed.

^c Data of female participants were analyzed.