

Web Table 1. Multivariable-adjusted^a association of serum *trans*-fatty acids (TFA) with prostate cancer risk in CARET, 1985-2003

<i>Trans</i> -fatty acids	Quartile 1		Quartile 2			Quartile 3			Quartile 4			<i>P</i> -trend
	N	OR	N	OR	95% CI	N	OR	95% CI	N	OR	95% CI	
Non-aggressive prostate cancer ^b												
TFA C16:1	85/350	1.00	87/349	1.05	0.74, 1.47	91/349	1.17	0.83, 1.66	105/350	1.37	0.96, 1.94	0.06
TFA C18:1	94/349	1.00	79/350	0.87	0.62, 1.22	108/349	1.18	0.85, 1.64	87/350	0.99	0.70, 1.41	0.61
TFA C18:2	89/350	1.00	90/349	1.01	0.72, 1.41	92/350	1.01	0.73, 1.41	97/349	1.09	0.78, 1.51	0.64
Aggressive prostate cancer ^c												
TFA C16:1	75/350	1.00	63/349	0.87	0.60, 1.26	66/349	1.01	0.68, 1.48	69/350	1.05	0.71, 1.55	0.65
TFA C18:1	70/349	1.00	66/350	0.98	0.67, 1.43	68/349	1.06	0.73, 1.56	69/350	1.14	0.77, 1.69	0.45
TFA C18:2	69/350	1.00	51/349	0.71	0.48, 1.06	83/350	1.18	0.82, 1.68	70/349	0.99	0.68, 1.44	0.44

Abbreviations: BMI, body mass index; CARET, Carotene and Retinol Efficacy Trial; CI: confidence interval; N: number of cases/number of controls; OR: odds ratio; TFA, *trans*-fatty acid.

^a Multivariate adjusting age at enrollment (continuous), race (white, black, others), CARET randomization assignment (retinol plus β -carotene, placebo), family history of prostate cancer in first-relatives (yes, no), alcohol consumption (non-drinker, below median, at or above median, unknown), smoking status (current, former/never), smoking pack-year (<40, 40, <60, \geq 60), and BMI (continuous).

^b Defined as stage 0–II tumors and Gleason score <7.

^c Defined as stage III/IV tumors or Gleason score \geq 7.

Web Table 2. Joint association^a of serum n-3 and n-6 polyunsaturated fatty acids (PUFAs) and myeloperoxidase gene (*MPO* G-463A) polymorphism with non-aggressive prostate cancer^b in CARET, 1985-2003

Fatty acids	<i>MPO</i> genotype	Quartile 1			Quartile 2			Quartile 3			Quartile 4			<i>P</i> -trend	<i>P</i> -inter-action
		N	OR	95% CI)	N	OR	95% CI	N	OR	95% CI	N	OR	95% CI		
n-3 PUFAs															
α -Linolenic acid	GG	42/204	1.00	Referent	40/210	0.89	0.55, 1.43	43/189	1.10	0.68, 1.77	28/217	0.63	0.37, 1.07	0.20	0.15
	GA/AA	20/138	0.73	0.41, 1.30	35/132	1.33	0.80, 2.20	24/156	0.74	0.43, 1.29	30/123	1.18	0.70, 2.01	0.38	
Eicosatrienoic acid	GG	38/202	1.00	Referent	40/209	1.07	0.65, 1.74	41/197	1.14	0.70, 1.86	34/212	0.88	0.53, 1.46	0.72	0.15
	GA/AA	22/144	0.84	0.47, 1.49	27/130	1.16	0.77, 2.00	26/145	1.01	0.58, 1.75	33/130	1.44	0.85, 2.42	0.10	
Eicosapentaenoic acid (EPA)	GG	32/216	1.00	Referent	40/203	1.29	0.78, 2.14	41/197	1.30	0.78, 2.17	40/204	1.20	0.72, 2.01	0.45	0.82
	GA/AA	22/127	1.15	0.64, 2.08	28/144	1.31	0.75, 2.27	35/146	1.55	0.91, 2.64	24/132	1.17	0.65, 2.10	0.93	
Docosapentaenoic acid (DPA)	GG	40/227	1.00	Referent	38/191	1.10	0.67, 1.78	37/206	1.00	0.61, 1.63	38/196	1.04	0.64, 1.69	0.94	0.57
	GA/AA	27/118	1.32	0.77, 2.28	29/150	1.11	0.66, 1.88	25/137	1.02	0.59, 1.76	28/144	1.07	0.63, 1.83	0.47	
Docosahexaenoic acid (DHA)	GG	38/227	1.00	Referent	44/196	1.39	0.86, 2.24	39/206	1.17	0.71, 1.92	32/191	1.05	0.62, 1.78	0.85	0.55
	GA/AA	27/116	1.44	0.83, 2.49	28/146	1.21	0.71, 2.06	28/139	1.27	0.74, 2.18	26/148	1.12	0.64, 1.95	0.66	
EPA + DHA	GG	34/230	1.00	Referent	45/199	1.57	0.96, 2.55	42/200	1.46	0.89, 2.40	32/191	1.17	0.68, 1.99	0.73	0.83
	GA/AA	22/115	1.33	0.74, 2.38	30/144	1.48	0.86, 2.53	27/143	1.34	0.77, 2.33	30/147	1.45	0.84, 2.52	0.73	
Total n-3	GG	38/229	1.00	Referent	41/202	1.22	0.75, 1.99	45/201	1.37	0.85, 2.21	29/188	0.94	0.55, 1.60	0.93	0.54
	GA/AA	31/118	1.63	0.96, 2.76	22/138	1.00	0.56, 1.76	26/142	1.12	0.65, 1.94	30/151	1.24	0.72, 2.13	0.58	
n-6 PUFAs															
Linoleic acid	GG	40/202	1.00	Referent	42/193	1.11	0.68, 1.79	29/197	0.74	0.44, 1.25	42/228	0.93	0.57, 1.51	0.49	0.76
	GA/AA	33/139	1.27	0.76, 2.12	23/148	0.80	0.46, 1.39	27/146	0.93	0.54, 1.60	26/116	1.18	0.68, 2.06	0.84	
γ -Linolenic acid	GG	42/221	1.00	Referent	38/191	1.00	0.62, 1.63	35/196	0.84	0.51, 1.38	38/211	0.87	0.53, 1.42	0.51	0.61
	GA/AA	24/121	1.05	0.61, 1.83	28/151	0.96	0.57, 1.63	29/147	0.97	0.57, 1.65	28/130	1.06	0.62, 1.81	0.91	
Eicosadienoic acid	GG	42/209	1.00	Referent	35/200	0.89	0.54, 1.45	31/194	0.79	0.48, 1.32	45/217	1.07	0.67, 1.71	0.94	0.10
	GA/AA	37/134	1.44	0.88, 2.37	29/138	1.08	0.64, 1.83	21/151	0.71	0.40, 1.25	22/126	0.91	0.52, 1.62	0.06	
Dihomo- γ -linolenic acid	GG	45/213	1.00	Referent	43/200	1.01	0.63, 1.61	39/207	0.89	0.55, 1.44	26/200	0.62	0.36, 1.06	0.08	0.90
	GA/AA	28/131	1.01	0.60, 1.71	33/140	1.15	0.69, 1.90	28/132	1.06	0.62, 1.80	20/146	0.66	0.37, 1.18	0.24	

Arachidonic acid	GG	44/207	1.00	Referent	32/220	0.71	0.43, 1.16	35/204	0.85	0.52, 1.39	42/189	1.09	0.68, 1.76	0.72	0.34
	GA/AA	24/134	0.88	0.51, 1.52	22/124	0.85	0.48, 1.49	22/139	0.78	0.44, 1.36	41/152	1.45	0.88, 2.37	0.09	
Docosadienoic acid	GG	38/202	1.00	Referent	45/207	1.19	0.74, 1.92	39/207	1.02	0.62, 1.67	31/204	0.84	0.50, 1.41	0.45	0.13
	GA/AA	20/137	0.80	0.45, 1.44	34/135	1.40	0.84, 2.35	19/142	0.75	0.41, 1.36	36/135	1.49	0.89, 2.48	0.19	
Docosatetraenoic acid	GG	37/208	1.00	Referent	37/197	1.05	0.64, 1.74	34/203	0.93	0.56, 1.54	45/212	1.21	0.74, 1.95	0.51	0.21
	GA/AA	28/133	1.22	0.71, 2.10	34/142	1.37	0.82, 2.30	26/142	1.02	0.59, 1.78	21/132	0.93	0.51, 1.68	0.27	
Total n-6	GG	40/201	1.00	Referent	41/206	1.01	0.62, 1.64	26/198	0.66	0.39, 1.13	46/215	1.10	0.68, 1.76	0.94	0.74
	GA/AA	28/138	1.04	0.61, 1.78	26/138	0.97	0.56, 1.67	26/145	0.93	0.54, 1.60	29/128	1.20	0.70, 2.05	0.65	

Abbreviations: BMI, body mass index; CARET, Carotene and Retinol Efficacy Trial; CI: confidence interval; DHA, docosahexaenoic acid; DPA, docosapentaenoic acid; EPA, eicosapentaenoic acid; *MPO*, myeloperoxidase gene; N: number of cases/number of controls; OR: odds ratio; PUFAs, polyunsaturated fatty acids.

^a Multivariate adjusting age at enrollment (continuous), race (white, black, others), CARET randomization assignment (retinol plus β -carotene, placebo), family history of prostate cancer in first-relatives (yes, no), alcohol consumption (non-drinker, below median, at or above median, unknown), smoking status (current, former/never), smoking pack-year (<40, 40, <60, \geq 60), and BMI (continuous).

^b Defined as stage 0–II tumors and Gleason score <7.

Web Table 3. Joint association^a of serum *trans*-fatty acids (TFA) and myeloperoxidase gene (*MPO* G-463A) polymorphism with prostate cancer in CARET, 1985-2003

<i>Trans</i> -fatty acids	<i>MPO</i> genotype	Quartile 1			Quartile 2			Quartile 3			Quartile 4			<i>P</i> -trend	<i>P</i> -interaction
		N	OR	95% CI	N	OR	95% CI	N	OR	95% CI	N	OR	95% CI		
Non-aggressive prostate cancer ^b															
TFA C16:1	GG	36/209	1.00	Referent	40/218	1.11	0.68, 1.83	33/192	1.10	0.65, 1.83	44/201	1.39	0.83, 2.31	0.24	0.81
	GA/AA	26/134	1.15	0.66, 2.01	24/123	1.19	0.67, 2.11	28/150	1.19	0.69, 2.08	31/142	1.44	0.83, 2.49	0.48	
TFA C18:1	GG	33/212	1.00	Referent	36/187	1.31	0.78, 2.20	44/211	1.42	0.85, 2.35	40/210	1.36	0.81, 2.30	0.28	0.71
	GA/AA	28/129	1.44	0.83, 2.50	19/152	0.88	0.48, 1.61	38/133	1.96	1.15, 3.31	24/135	1.29	0.71, 2.32	0.55	
TFA C18:2	GG	31/200	1.00	Referent	29/208	0.90	0.52, 1.56	41/200	1.28	0.77, 2.13	52/212	1.60	0.98, 2.62	0.020	0.08
	GA/AA	29/140	1.37	0.79, 2.39	25/133	1.21	0.68, 2.15	33/144	1.50	0.88, 2.58	22/132	1.11	0.61, 2.01	0.66	
Aggressive prostate cancer ^c															
TFA C16:1	GG	31/209	1.00	Referent	33/218	1.07	0.63, 1.83	34/192	1.42	0.82, 2.45	30/201	1.24	0.70, 2.19	0.29	0.82
	GA/AA	21/134	1.09	0.59, 2.00	16/123	0.98	0.51, 1.88	18/150	1.00	0.53, 1.89	23/142	1.32	0.72, 2.41	0.47	
TFA C18:1	GG	29/212	1.00	Referent	35/187	1.38	0.80, 2.36	31/211	1.20	0.69, 2.10	33/210	1.34	0.77, 2.34	0.49	0.35
	GA/AA	23/129	1.34	0.74, 2.44	16/152	0.85	0.44, 1.64	26/133	1.55	0.86, 2.78	13/135	0.86	0.42, 1.74	0.68	
TFA C18:2	GG	29/200	1.00	Referent	23/208	0.77	0.43, 1.38	41/200	1.45	0.86, 2.44	35/212	1.14	0.66, 1.95	0.21	0.32
	GA/AA	24/140	1.31	0.73, 2.37	11/133	0.58	0.28, 1.21	26/144	1.25	0.70, 2.23	17/132	0.94	0.49, 1.79	0.68	

Abbreviations: BMI, body mass index; CARET, Carotene and Retinol Efficacy Trial; CI: confidence interval; *MPO*, myeloperoxidase gene; N: number of cases/number of controls; OR: odds ratio; TFA, *trans*-fatty acid.

^a Multivariate adjusting age at enrollment (continuous), race (white, black, others), CARET randomization assignment (retinol plus β -carotene, placebo), family history of prostate cancer in first-relatives (yes, no), alcohol consumption (non-drinker, below median, at or above median, unknown), smoking status (current, former/never), smoking pack-year (<40, 40, <60, \geq 60), and BMI (continuous).

^b Defined as stage 0–II tumors and Gleason score <7.

^c Defined as stage III/IV tumors or Gleason score \geq 7.

Web Table 4. Joint association^a of selected serum n-3 and n-6 polyunsaturated fatty acids (PUFAs) and myeloperoxidase gene (*MPO* G-463A) polymorphism with prostate cancer by different definitions of the cases (advanced stage, high-grade, and lethal prostate cancer) in CARET, 1985-2003

Fatty acids	<i>MPO</i> genotype	Quartile 1			Quartile 2			Quartile 3			Quartile 4			<i>P</i> -trend	<i>P</i> -inter-action
		N	OR	95% CI	N	OR	95% CI	N	OR	95% CI	N	OR	95% CI		
Cases with advanced stage prostate cancer^b															
Docosapentaenoic acid	GG	18/227	1.00	Referent	8/191	0.47	0.20, 1.12	13/206	0.74	0.35, 1.57	13/196	0.75	0.36, 1.59	0.73	0.60
	GA/AA	12/118	1.24	0.57, 2.68	14/150	1.16	0.56, 2.42	7/137	0.60	0.24, 1.50	11/144	0.90	0.41, 1.97	0.20	
EPA + DHA	GG	10/230	1.00	Referent	14/199	1.70	0.73, 3.93	16/200	1.87	0.82, 4.27	12/191	1.43	0.59, 3.46	0.49	0.28
	GA/AA	11/115	2.27	0.93, 5.54	13/144	2.15	0.91, 5.08	9/143	1.48	0.58, 3.77	11/147	1.82	0.73, 4.54	0.65	
Total n-3 PUFAs	GG	11/229	1.00	Referent	16/202	1.67	0.75, 3.71	12/201	1.29	0.55, 3.03	13/188	1.38	0.59, 3.23	0.71	0.23
	GA/AA	13/118	2.38	1.02, 5.51	12/138	1.82	0.77, 4.28	8/142	1.19	0.46, 3.07	11/151	1.57	0.64, 3.84	0.35	
Arachidonic acid	GG	15/207	1.00	Referent	14/220	0.91	0.43, 1.95	14/204	1.00	0.47, 2.15	9/189	0.68	0.29, 1.60	0.46	0.81
	GA/AA	13/134	1.34	0.62, 2.94	8/124	0.89	0.36, 2.19	14/139	1.39	0.65, 3.01	9/152	0.99	0.41, 2.38	0.78	
Cases with high-grade prostate cancer^c															
Docosapentaenoic acid	GG	8/227	1.00	Referent	9/191	1.41	0.53, 3.76	6/206	0.82	0.28, 2.43	8/196	1.24	0.45, 3.42	0.96	0.07
	GA/AA	10/118	2.46	0.93, 6.50	7/150	1.40	0.49, 3.98	4/137	0.89	0.26, 3.06	3/144	0.62	0.16, 2.42	0.030	
EPA + DHA	GG	5/230	1.00	Referent	7/199	1.53	0.47, 4.96	8/200	1.67	0.53, 5.26	11/191	2.34	0.77, 7.08	0.15	0.005
	GA/AA	9/115	3.72	1.20, 11.54	7/144	2.11	0.65, 6.86	6/143	1.85	0.55, 6.28	2/147	0.57	0.11, 3.06	0.026	
Total n-3 PUFAs	GG	5/229	1.00	Referent	7/202	1.57	0.48, 5.08	8/201	1.70	0.54, 5.37	11/188	2.39	0.79, 7.25	0.13	0.002
	GA/AA	9/118	3.60	1.16, 11.15	9/138	2.92	0.95, 8.99	4/142	1.26	0.33, 4.82	2/151	0.56	0.10, 3.04	0.011	
Arachidonic acid	GG	7/207	1.00	Referent	10/220	1.50	0.55, 4.06	6/204	0.93	0.30, 2.83	8/189	1.31	0.45, 3.82	0.76	0.031
	GA/AA	12/134	2.76	1.05, 7.29	3/124	0.72	0.18, 2.89	9/139	2.21	0.79, 6.19	0/152	–	–	0.017	
Cases with lethal prostate cancer^d															
Docosapentaenoic acid	GG	7/227	1.00	Referent	6/191	0.90	0.29, 2.76	6/206	0.83	0.27, 2.53	7/196	1.04	0.35, 3.08	0.74	0.69
	GA/AA	6/118	1.49	0.48, 4.61	5/150	0.96	0.30, 3.13	6/137	1.27	0.41, 3.89	4/144	0.75	0.21, 2.65	0.20	
EPA + DHA	GG	6/230	1.00	Referent	4/199	0.74	0.21, 2.70	9/200	1.52	0.52, 4.45	7/191	1.11	0.35, 3.52	0.49	0.60
	GA/AA	5/115	1.57	0.46, 5.32	5/144	1.28	0.38, 4.32	3/143	0.70	0.17, 2.90	8/147	1.63	0.52, 5.07	0.65	

Total n-3 PUFAs	GG	6/229	1.00	Referent	5/202	0.87	0.26, 2.92	9/201	1.53	0.52, 4.47	6/188	0.93	0.28, 3.07	0.71	0.72
	GA/AA	5/118	1.50	0.44, 5.08	6/138	1.58	0.49, 5.05	2/142	0.47	0.09, 2.39	8/151	1.51	0.48, 4.73	0.35	
Arachidonic acid	GG	8/207	1.00	Referent	7/220	0.83	0.29, 2.34	6/204	0.77	0.26, 2.28	5/189	0.53	0.16, 1.72	0.46	0.68
	GA/AA	7/134	1.32	0.46, 3.77	5/124	0.92	0.29, 2.92	6/139	1.01	0.34, 3.04	3/152	0.42	0.10, 1.70	0.78	

Abbreviations: BMI, body mass index; CARET, Carotene and Retinol Efficacy Trial; CI: confidence interval; DHA, docosahexaenoic acid; DPA, docosapentaenoic acid; EPA, eicosapentaenoic acid; *MPO*, myeloperoxidase gene; N: number of cases/number of controls; OR: odds ratio; PUFAs, polyunsaturated fatty acids.

^a Multivariate adjusting age at enrollment (continuous), race (white, black, others), CARET randomization assignment (retinol plus β -carotene, placebo), family history of prostate cancer in first-relatives (yes, no), alcohol consumption (non-drinker, below median, at or above median, unknown), smoking status (current, former/never), smoking pack-year (<40, 40, <60, \geq 60), and BMI (continuous).

^b 96 cases and 1369 controls. Cases had either clinical or pathological stage III/IV prostate tumor at diagnosis.

^c 55 cases and 1369 controls. Cases had prostate tumor with Gleason score \geq 8.

^d 47 cases and 1369 controls. Cases had either metastatic (clinical or pathological stage IV) prostate tumor at diagnosis or prostate cancer-specific death during follow-up through 2005.