

SUPPLEMENTARY DATA

Article : Plasma and dietary linoleic acid and 3-year risk of type 2 diabetes after post-myocardial infarction: a prospective analysis in the Alpha Omega Cohort

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Contents:

Supplementary Table S1	Hazard ratios of plasma linoleic acid and incident type 2 diabetes (per 5%) in subgroups
Supplementary Table S2	Hazard ratios of plasma and dietary LA in quintiles and per 5% with incident type 2 diabetes in sensitivity analyses
Supplementary Table S3	Hazard ratios of plasma LA in quintiles and per 5% with incident type 2 diabetes, adjusting for potential confounding or intermediary factors one at a time
Supplementary Table S4	Hazard ratios of specific plasma fatty acids and fatty acid ratios with incident type 2 diabetes
Supplementary Figure S1	Flow diagram for selecting the population of analysis from the Alpha Omega Cohort

SUPPLEMENTARY DATA

Supplementary Table S1. Hazard ratios and 95%CI of plasma linoleic acid and incident type 2 diabetes (per 5%) in subgroups*

Subgroups	HR (per 5 %)	<i>P</i> for interaction
Sex		
Men (n=2,621)	0.81 (0.67, 0.96)	0.009
Women (n=636)	0.47 (0.33, 0.68)	
Age		
< 65 y (n=966)	0.84 (0.62, 1.12)	0.28
≥ 65 y (n=2,291)	0.69 (0.57, 0.83)	
Body mass index		
< 30 kg/m ² (n=2,604)	0.72 (0.60, 0.87)	0.96
≥ 30 kg/m ² (n=653)	0.72 (0.53, 0.97)	
Alcohol intake[†]		
No (n=132)	0.49 (0.25, 0.96)	0.42
Low (n=1,672)	0.70 (0.56, 0.87)	
Moderate (n=907)	0.88 (0.64, 1.21)	
High (n=546)	0.72 (0.49, 1.06)	
Statin use		
Yes (n=2,815)	0.70 (0.58, 0.83)	0.19
No (n=442)	0.94 (0.62, 1.43)	
Time since myocardial infarction		
>5 years (n=1190)	0.78 (0.60, 1.02)	0.68
≤5 years (n=2038)	0.71 (0.58, 0.86)	

* Hazard Ratios with 95% confidence intervals were obtained by Cox regression analysis, using the fully adjusted model (model 2, described in text, Statistical Analysis);

† Categorized as “no: 0 g/d”, “low: >0 to 10 g/d”, “moderate: >10 to 20 g/d for women and >10 to 30 g/d for men”, and “high: >20 g/d for women and >30 g/d for men”;

SUPPLEMENTARY DATA

Supplementary Table S2. Hazard ratios of dietary and plasma LA in quintiles and per 5% with incident type 2 diabetes including only patients without prediabetes at baseline (n=3,073)^{*, †}

Exposure	N cases	Q1	Q2	Q3	Q4	Q5	<i>P</i> -trend [‡]	Per 5%	<i>P</i> -value
Plasma LA (% total fatty acids)	138	1.00	0.70 (0.43, 1.14)	0.63 (0.38, 1.06)	0.62 (0.37, 1.03)	0.50 (0.28, 0.88)	0.014	0.76 (0.63, 0.91)	0.003
Dietary LA (en%)	138	1.00	0.75 (0.43, 1.29)	0.91 (0.51, 1.62)	1.10 (0.58, 2.10)	0.82 (0.34, 1.99)	0.98	1.16 (0.54, 2.51)	0.70

* Hazard Ratios with 95% confidence intervals were obtained by Cox regression analysis, using the fully adjusted model (model 2 for plasma LA and model 3 for dietary LA, described in text, Statistical Analysis);

† Sensitivity analyses excluding patients with prediabetes at baseline. Prediabetes was defined as plasma glucose between 6.1-6.9 mmol/L after ≥4 h of fasting;

‡ *P*-values for trend were obtained by assigning each patient median plasma or dietary LA for the category and modeled these values as continuous; en%, percentage of total energy intake, excluding energy from alcohol; LA, linoleic acid; Q, quintile; SFA, saturated fatty acids; TFA, trans fatty acids.

SUPPLEMENTARY DATA

Supplementary Table S3. Hazard ratios of plasma LA in quintiles and per 5% with incident type 2 diabetes, adjusting for potential confounding or intermediary factors one at a time*

	Quintiles of plasma LA (%)					<i>P</i> -trend [†]	Per 5%	<i>P</i> -value
	Q1 (n=652)	Q2 (n=650)	Q3 (n=651)	Q4 (n=653)	Q5 (n=651)			
Median, % total FA	43.9	47.6	50.1	52.8	56.3			
Cases	49	38	31	31	22			
Model 2	1.00	0.74 (0.48, 1.14)	0.64 (0.40, 1.00)	0.60 (0.38, 0.94)	0.44 (0.26, 0.75)	0.001	0.73 (0.62, 0.86)	<0.001
+ Triacylglycerol, mmol/L	1.00	0.77 (0.50, 1.18)	0.65 (0.41, 1.03)	0.64 (0.40, 1.02)	0.47 (0.28, 0.80)	0.003	0.76 (0.64, 0.89)	<0.001
+ Palmitic acid (16:0), % total FA	1.00	0.80 (0.52, 1.26)	0.72 (0.44, 1.19)	0.71 (0.42, 1.20)	0.58 (0.30, 1.10)	0.09	0.77 (0.62, 0.96)	0.020
+ Palmitoleic to palmitic acid ratio (16:1n-7/16:0)	1.00	0.81 (0.52, 1.26)	0.73 (0.44, 1.18)	0.70 (0.42, 1.16)	0.53 (0.30, 0.95)	0.030	0.77 (0.64, 0.93)	0.008
+ Oleic acid (18:1n-9), % total FA	1.00	0.85 (0.54, 1.34)	0.78 (0.47, 1.32)	0.80 (0.45, 1.40)	0.66 (0.33, 1.30)	0.25	0.80 (0.63, 1.03)	0.09

* Hazard Ratios with 95% confidence intervals were obtained by Cox regression analysis, using the fully adjusted model (model 2, described in text, Statistical Analysis);

† *P*-values for trend were obtained by assigning each patient median plasma LA for the category and we modeled these values as continuous; FA, fatty acids; LA, linoleic acid.

SUPPLEMENTARY DATA

Supplementary Table S4. Hazard ratios of specific plasma fatty acids and fatty acid ratios with incident type 2 diabetes*

		Quintiles of plasma or plasma ratios of FA					<i>P</i> -trend [†]
		Q1	Q2	Q3	Q4	Q5	
Palmitic acid (16:0), % total FA	N	651	652	649	653	652	
	Median	10.3	10.9	11.2	11.7	12.2	
	Cases	20	33	34	39	45	
	Model 2	1.00	1.69 (0.97, 2.94)	1.76 (1.01, 3.07)	2.02 (1.18, 3.49)	2.23 (1.30, 3.80)	0.003
Oleic acid (18:1n-9), % total FA	N	652	649	653	653	650	
	Median	15.1	16.6	17.7	18.8	20.6	
	Cases	17	31	38	42	43	
	Model 2	1.00	1.83 (1.01, 3.31)	2.27 (1.28, 4.05)	2.43 (1.38, 4.30)	2.65 (1.49, 4.72)	<0.001
Liver fat proxy (16:0/18:2n-6)	N	651	652	651	652	651	
	Median	0.18	0.21	0.22	0.24	0.27	
	Cases	19	32	36	39	45	
	Model 2	1.00	1.70 (0.96, 3.00)	1.90 (1.09, 3.32)	2.07 (1.19, 3.60)	2.38 (1.38, 4.12)	0.002
Estimated D5D activity (20:4n-6/20:3n-6) [‡]	N	647	648	648	648	647	
	Median	6.8	8.7	10.1	11.9	15.0	
	Cases	38	40	31	35	23	
	Model 2	1.00	1.09 (0.70, 1.70)	0.84 (0.52, 1.36)	1.04 (0.66, 1.66)	0.72 (0.43, 1.22)	0.23
Estimated D6D activity (18:3n-6/18:2n-6)	N	651	652	651	652	651	
	Median	0.011	0.015	0.019	0.023	0.031	
	Cases	25	26	34	42	44	
	Model 2	1.00	1.01 (0.58, 1.75)	1.31 (0.77, 2.21)	1.66 (1.00, 2.77)	1.74 (1.04, 2.91)	0.008

* Hazard Ratios with 95% confidence intervals were obtained by Cox regression analysis, using the fully adjusted model (Model 2 described in text, Statistical Analysis);

[†] P-values for trend were obtained by assigning each patient median plasma FA or ratio of plasma FA for the category and we modeled these values as continuous;

[‡] Estimated D5D activity was only calculated for 3,238 patients with non-zero values for their 20:3n-6 levels; D5D, delta-5-desaturase; D6D, delta-6-desaturase; FA, fatty acid.

SUPPLEMENTARY DATA

Supplementary Figure S1. Flow diagram for selecting the population of analysis from the Alpha Omega Cohort. CE, cholesteryl esters; FA, fatty acids; UFA, unsaturated fatty acids.

