

EICOSAPENTAENOIC ACID AND PREVALENCE OF CARDIOVASCULAR DISEASE IN HEMODIALYSIS PATIENTS

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INTRODUCTION AND AIMS: Cardiovascular effects of eicosapentaenoic acid (EPA) have not been clarified enough in dialysis patients.

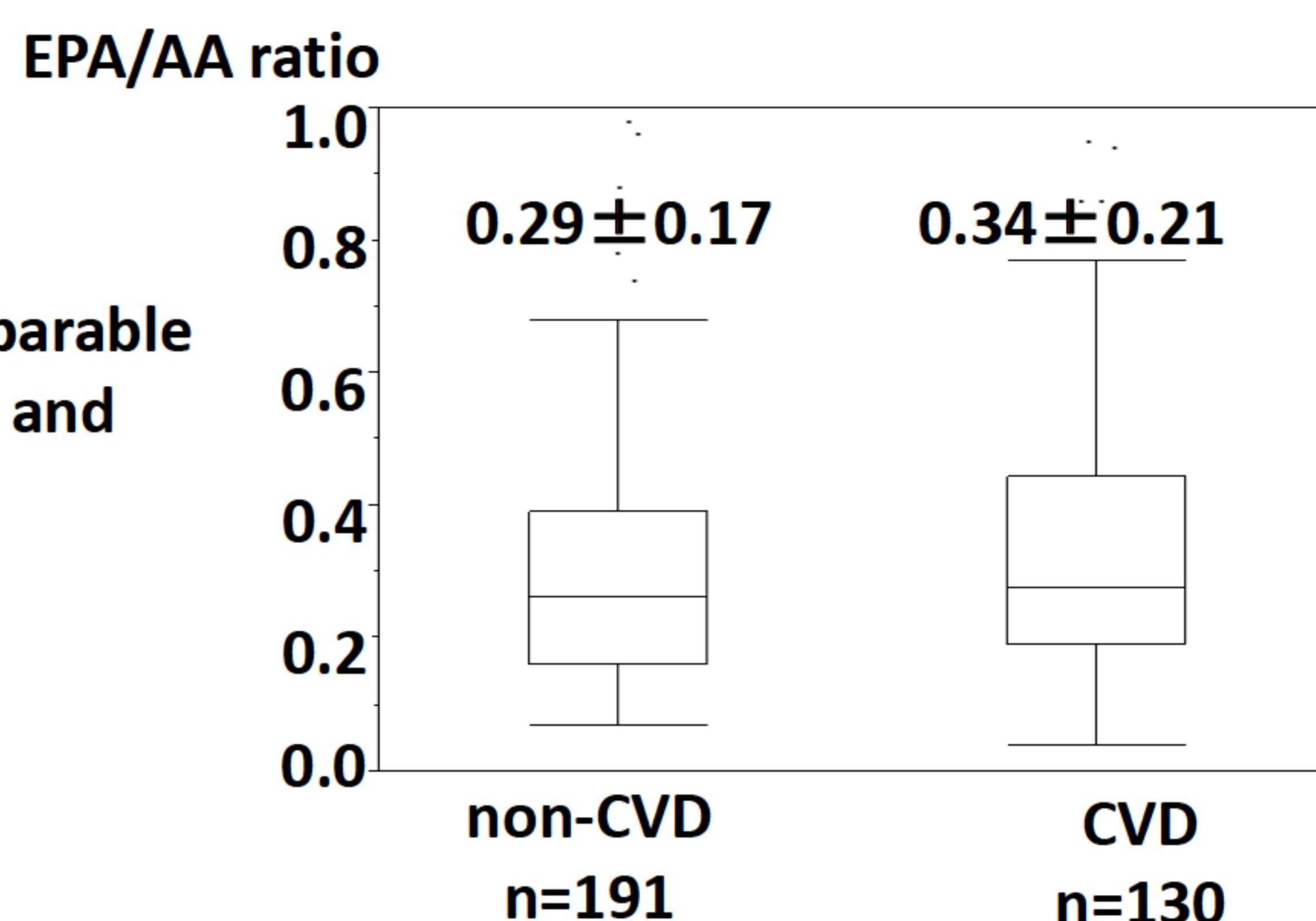
METHODS: We cross-sectionally investigated the relationship between serum EPA/arachidonic acid (AA) ratio and prevalence of cardiovascular disease (CVD) in 321 chronic hemodialysis patients. CVD was defined as a composite of ischemic heart disease, ischemic stroke, and hemorrhagic stroke. The frequency of dietary fish intake was also examined. Logistic regression was used to quantify the association of EPA/AA ratio with CVD.

Baseline Characteristics

	All (n=321)
Age (Year)	64 ± 11
Sex (Male)	211 (66%)
Dialysis Vintage (Year)	9.7 ± 8.2
EPA/AA ratio	0.31 ± 0.19
Hypertension	177 (55%)
Diabetes Mellitus	131 (41%)
Use of Statin	97 (30%)
LDL-C ≥140, mg/dL	10 (3%)
HDL-C <40, mg/dL	99 (31%)
CRP, mg/dL	0.4 ± 0.8
Albumin, g/dL	3.7 ± 0.3
CVD	130 (41%)
Ischemic Heart Disease	65 (20%)
Ischemic Stroke	70 (22%)
Hemorrhagic Stroke	20 (6%)

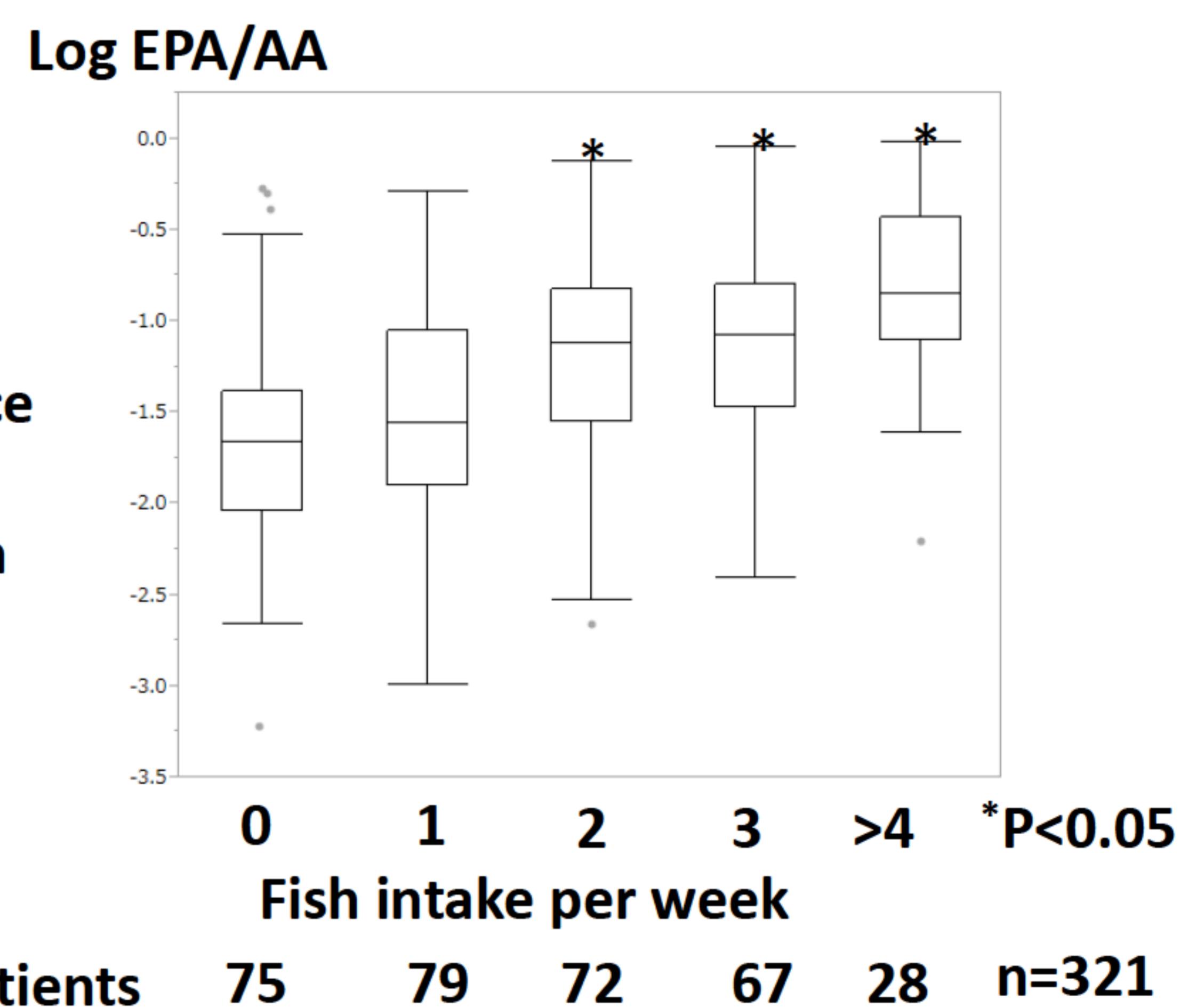
EPA/AA and CVD

EPA/AA ratio was comparable between patients with and without CVD.



Fish intake and EPA/AA

- One hundred and fifty-four patients (48%) took fish once or less weekly.
- EPA/AA ratio increased with frequency of fish intake.



Number of patients: 75 (0), 79 (1), 72 (2), 67 (3), 28 (>4), n=321

Risk Factors of CVD (Multivariate analysis)

Model	1			2		
	OR	95%CI	P	OR	95%CI	P
Log EPA/AA (SD)	1.21	0.94-1.57	0.14			
Fish Intake once or less weekly				1.16	0.71-1.93	0.55
Age (Year)	1.04	1.01-1.07	0.01	13.1	2.74-67.2	<0.01
Hypertension	2.25	1.37-3.77	<0.01	2.17	1.32-3.61	<0.01
Dialysis Vintage (Year)	1.04	1.01-1.08	0.02	1.04	1.00-1.07	0.03
Male	1.54	0.91-2.65	0.11	1.58	0.93-2.73	0.09
Diabetes Mellitus	1.47	0.86-2.53	0.16	1.46	0.85-2.50	0.17
Use of Statin	1.64	0.96-2.78	0.07	1.60	0.95-2.72	0.08
LDL-C ≥140 mg/dL	1.26	0.28-5.41	0.75	1.30	0.29-5.57	0.72
HDL-C <40	1.40	0.83-2.36	0.21	1.38	0.81-2.36	0.23
Log CRP (SD)	1.27	0.99-1.64	0.06	1.25	0.97-1.60	0.08
Albumin (SD)	0.87	0.65-1.15	0.33	0.89	0.67-1.17	0.41

OR: odds ratio, CI: confidence interval

- EPA/AA ratio nor fish intake was associated with CVD.
- Age, hypertension and dialysis vintage had significant association with CVD after adjustment.

CONCLUSIONS: In our dialysis patients, traditional risk factors, but not EPA/AA ratio or fish intake, were associated with the prevalence of CVD.

