**Supplementary Tables**

**Associations of serum n-3 and n-6 polyunsaturated fatty acids and hair mercury with the risk of stroke**

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| **Supplementary Table S1.** Risk of incident total stroke, ischaemic stroke and haemorrhagic stroke in quartiles of serum gamma-linolenic acid | | | | | | |
|  | Quartile of serum gamma-linolenic acid (%)\* | | | |  |  |
|  | 1 (<0.21) | 2 (0.21-0.27) | 3 (0.28-0.35) | 4 (>0.35) | *P*-trend | HR (95%CI) for each 0.5 %-unit increase in the fatty acid concentration |
| **All stroke cases** |  |  |  |  |  |  |
| Number of events | 52 | 43 | 53 | 54 |  |  |
| Model 1† | 1 | 0.78 (0.52-1.77) | 1.02 (0.69-1.49) | 1.12 (0.76-1.64) | 0.33 | 1.19 (0.62-2.28) |
| Model 2‡ | 1 | 0.80 (0.53-1.20) | 1.02 (0.69-1.49) | 1.14 (0.78-1.68) | 0.29 | 1.22 (0.63-2.36) |
| Model 3§ | 1 | 0.78 (0.52-1.18) | 1.01 (0.68-1.48) | 1.16 (0.79-1.71) | 0.26 | 1.21 (0.62-2.35) |
|  |  |  |  |  |  |  |
| Ischaemic stroke |  |  |  |  |  |  |
| Number of events | 39 | 34 | 36 | 44 |  |  |
| Model 1 | 1 | 0.83 (0.53-1.32) | 0.93 (0.59-1.46) | 1.22 (0.79-1.88) | 0.25 | 1.28 (0.61-2.69) |
| Model 2 | 1 | 0.84 (0.53-1.33) | 0.92 (0.58-1.45) | 1.25 (0.81-1.93) | 0.22 | 1.33 (0.62-2.85) |
| Model 3 | 1 | 0.83 (0.53-1.32) | 0.92 (0.58-1.45) | 1.31 (0.84-2.02) | 0.16 | 1.43 (0.66-3.09) |
|  |  |  |  |  |  |  |
| Haemorrhagic stroke |  |  |  |  |  |  |
| Number of events | 13 | 9 | 19 | 10 |  |  |
| Model 1 | 1 | 0.67 (0.29-1.57) | 1.45 (0.72-2.94) | 0.77 (0.34-1.77) | 0.89 | 1.09 (0.30-3.96) |
| Model 2 | 1 | 0.70 (0.30-1.64) | 1.46 (0.72-2.97) | 0.76 (0.33-1.76) | 0.84 | 0.97 (0.27-3.55) |
| Model 3 | 1 | 0.67 (0.29-1.58) | 1.42 (0.69-2.89) | 0.73 (0.32-1.71) | 0.76 | 0.83 (0.23-3.06) |
| HR, hazard ratio; CI, confidence interval; GLA, gamma-linoleic acid  \* Values in the models are hazard ratios and 95% confidence intervals (in parentheses). †Model 1: adjusted for age and examination year. ‡Model 2: adjusted for Model 1 plus body mass index; smoking; physical activity; alcohol intake. §Model 3: adjusted for Model 2 plus systolic blood pressure; diabetes; HDL cholesterol; LDL cholesterol; serum triglyceride; C-reactive protein. | | | | | | |

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| **Supplementary Table S2.** Risk of incident total stroke, ischaemic stroke and haemorrhagic stroke in quartiles of serum dihomo-gamma-linolenic acid | | | | | | |
|  | Quartile of serum dihomo-gamma-linolenic acid (%)\* | | | |  |  |
|  | 1 (<1.15) | 2 (1.15-1.33) | 3 (1.34-1.50) | 4 (>1.50) | *P*-trend | HR (95%CI) for each 0.5 %-unit increase in the fatty acid concentration |
| **All stroke cases** |  |  |  |  |  |  |
| Number of events | 45 | 49 | 61 | 47 |  |  |
| Model 1† | 1 | 1.10 (0.73-1.65) | 1.36 (0.92-2.00) | 1.04 (0.71-1.62) | 0.56 | 1.04 (0.80-1.35) |
| Model 2‡ | 1 | 1.08 (0.72-1.62) | 1.32 (0.89-1.94) | 1.02 (0.67-1.54) | 0.78 | 1.00 (0.76-1.30) |
| Model 3§ | 1 | 1.07 (0.71-1.60) | 1.31 (0.88-1.93) | 0.97 (0.63-1.47) | 0.96 | 0.95 (0.72-1.24) |
|  |  |  |  |  |  |  |
| Ischaemic stroke |  |  |  |  |  |  |
| Number of events | 33 | 34 | 48 | 38 |  |  |
| Model 1 | 1 | 1.04 (0.64-1.68) | 1.46 (0.94-2.28) | 1.19 (0.75-1.90) | 0.29 | 1.13 (0.84-1.52) |
| Model 2 | 1 | 1.02 (0.63-1.65) | 1.39 (0.89-2.17) | 1.09 (0.68-1.76) | 0.52 | 1.06 (0.78-1.44) |
| Model 3 | 1 | 1.01 (0.64-1.64) | 1.41 (0.90-2.22) | 1.04 (0.64-1.69) | 0.64 | 1.02 (0.75-1.38) |
|  |  |  |  |  |  |  |
| Haemorrhagic stroke |  |  |  |  |  |  |
| Number of events | 10 | 15 | 14 | 12 |  |  |
| Model 1 | 1 | 1.50 (0.67-3.34) | 1.35 (0.60-3.04) | 1.19 (0.51-2.76) | 0.78 | 1.04 (0.62-1.74) |
| Model 2 | 1 | 1.48 (0.66-3.31) | 1.33 (0.59-3.03) | 1.14 (0.48-2.69) | 0.87 | 0.99 (0.58-1.69) |
| Model 3 | 1 | 1.47 (0.65-3.31) | 1.25 (0.54-2.85) | 1.11 (0.46-2.66) | 0.94 | 0.95 (0.55-1.64) |
| HR, hazard ratio; CI, confidence interval.  \*Values in the models are hazard ratios and 95% confidence intervals (in parentheses). †Model 1: adjusted for age and examination year. ‡Model 2: adjusted for Model 1 plus body mass index; smoking; physical activity; alcohol intake. §Model 3: adjusted for Model 2 plus systolic blood pressure; diabetes; HDL cholesterol; LDL cholesterol; serum triglyceride; C-reactive protein. | | | | | | |

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| **Supplementary Table S3. Hazard ratio for total stroke associated with each 0.5 percentage unit increase in serum long-chain n-3 polyunsaturated fatty acids, stratified by the median hair mercury content.** | | | |
|  | Hair mercury≤1.26 µg/g | Hair mercury>1.26 µg/g | *P* for interaction |
| Number of cases/subjects | 92/915 | 110/913 |  |
| EPA+DPA+DHA, % (SD) | 4.26 (1.33) | 5.08 (1.70) |  |
|  | 0.94 (0.86-1.02)\* | 1.02 (0.98-1.08) | 0.13 |
| DHA, % (SD) | 2.29 (0.66) | 2.62 (0.75) |  |
|  | 0.89 (0.75-1.05) | 1.06 (0.94-1.19) | 0.14 |
| DPA, % (SD) | 0.54 (0.09) | 0.57 (1.06) |  |
|  | 0.67 (0.22-2.05) | 1.23 (0.52-2.94) | 0.41 |
| EPA, % (SD) | 1.43 (0.71) | 1.89 (1.00) |  |
|  | 0.90 (0.76-1.06) | 1.04 (0.96-1.13) | 0.18 |
| EPA, eicosapentaenoic acid; DPA, docosapentaenoic acid; DHA, docosahexaenoic acid.  \*Values are hazard ratio (95% confidence interval), adjusted for age, examination year, body mass index, smoking, physical activity, and alcohol intake (Model 2). | | | |

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| **Supplementary Table S4.** Hazard ratio for haemorrhagic stroke associated with each 0.5 percentage unit increase in serum long-chain n-3 polyunsaturated fatty acids, stratified by the median hair mercury content. | | | |
|  | Hair mercury≤1.26 µg/g | Hair mercury>1.26 µg/g | *P* for interaction |
| Number of cases/subjects | 21/915 | 30/913 |  |
| EPA+DPA+DHA, % (SD) | 4.26 (1.33) | 5.08 (1.70) |  |
|  | 0.98 (0.84-1.14)\* | 0.92 (0.80-1.05) | 0.29 |
| DHA, % (SD) | 2.29 (0.66) | 2.62 (0.75) |  |
|  | 0.98 (0.71-1.36) | 0.86 (0.66-1.13) | 0.39 |
| DPA, % (SD) | 0.54 (0.09) | 0.57 (1.06) |  |
|  | 0.39 (0.03-4.48) | 0.27 (0.04-1.74) | 0.96 |
| EPA, % (SD) | 1.43 (0.71) | 1.89 (1.00) |  |
|  | 0.96 (0.72-1.26) | 0.85 (0.66-1.09) | 0.23 |
| EPA, eicosapentaenoic acid; DPA, docosapentaenoic acid; DHA, docosahexaenoic acid.  \*Values are hazard ratio (95% confidence interval), adjusted for age, examination year, body mass index, smoking, physical activity, and alcohol intake (Model 2). | | | |