EXPOSURE TO PERSISTENT ORGANIC POLLUTANTS PREDICTS STROKE IN THE EDERLY.

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Background and Aims: The background exposure to persistent organic pollutants (POPs), lipophilic xenobiotics mainly accumulated in adipose tissue, has been recently emerged as a new risk factor of cardiovascular diseases. This prospective study was performed to evaluate if plasma concentrations of selected POPs predict the future risk of stroke among elderly.
Methods: Twenty-one POPs (including 16 polychlorinated biphenyl (PCB) congeners, 3 organochlorine (OC) pesticides, 1 brominated diphenyl ether (BDE), and 1 dioxin) were measured in plasma collected at baseline in 898 participants aged 70 years of the Prospective Investigation of the Vasculature in Uppsala Seniors (PIVUS). Stroke events were identified through hospital records.
Results: During the five year follow-up, 35 subjects developed stroke. During After adjusting for known risk factors of stroke, most PCBs with 4, 5, or 6 chlorine atoms, p,p-DDE, trans-nonachlor, and OCDD significantly predicted the risk of stroke. When we used quartiles of summary measures of PCBs and OC pesticides, the adjusted ORs were 1.0, 0.8, 1.2, and 2.1 for PCBs and 1.0, 1.2, 2.3, and 3.0 (95% confidence interval: 1.0-9.4) for OC pesticides (P for trend =0.11 and 0.03, respectively). The adjusted ORs of summary values among subjects with $\geq$ 90% were 5.5 (1.7-18.1) for PCBs and 4.0 (1.1-14.6) for OC pesticides. Those among those with $\geq$ 95% were 7.8 (2.1-29.6) and 9.5 (2.3-38.9), respectively.
Conclusion: The background exposure to POPs may play an important role in the development of stroke in elderly.