

## Incidence, etiology and risk factors of post-stroke depression in patients with acute ischemic stroke: A prospective study in Taiwan

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**Background:** Post-stroke depression (PSD) is the most frequent neuropsychiatric consequence of stroke and the influence is devastating. Our study aimed to determine the etiology, incidence and risk factors for the development of PSD.

**Methods:** Patients with ischemic stroke admitted to a general teaching hospital were enrolled in this six-month study. The patients were evaluated with the Toronto Alexithymia Scale-20 (TAS-20), Beck Anxiety Inventory (BAI), National Institute of Health Stroke Scale (NIHSS) and Mini-Mental Status Examination (MMSE) at baseline and then followed up each month for detection of PSD using the Center for Epidemiologic Studies of Depression (CES-D) scale. Cytokines such as interleukin-1, interleukin-6, tumor necrosis factor- $\alpha$  and interferon- $\gamma$  were checked as well while in PSD and compared with the data in baseline.

**Results:** In all, 285 patients with ischemic stroke were enrolled, and 93.3% completed the 6-month study. The overall incidence of PSD within six months was 16.5%. In multi-variate regression analyses, the incidence of PSD was significantly associated with higher BAI, higher NIHSS and higher TAS-20 scores. There were significant increases in the cytokines interleukin-6 (IL-6), interleukin-10 (IL-10), tumor necrosis factor  $\alpha$  (TNF- $\alpha$ ) and interferon- $\gamma$  and the ratios of IL-6/IL-10 and TNF- $\alpha$ /IL-10 were also elevated in patients with PSD.

**Conclusion:** This is the first study to address the significant relationship between alexithymia and PSD. It also suggested that immune imbalance plays a possible role in the pathophysiology of PSD and that IL-6 and TNF- $\alpha$  are key cytokines. Clinical professionals should pay more attention to stroke patients with alexithymic features and other risk factors.

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## Blood lead, parental marital status and the risk of attention-deficit/hyperactivity disorder in elementary school children: A longitudinal study

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The aim of this study was to investigate the blood lead level and parental marital status that might influence the development of attention-deficit/hyperactivity disorder (ADHD) symptoms in school-aged children. The participants in the survey included elementary school children and they were followed up biennially. The participants' parents or caregivers were administered a questionnaire including ADHD rating scale. Among 2,967 who were not suspected to have ADHD at baseline survey, 2,195 children who took follow-up test for ADHD were evaluated. The incidence rate of suspected ADHD was 5.0% (107 cases) during the two years of the follow-up period. The geometric mean blood lead level was 1.56 $\mu$ g/dL. Relative risk ratio for ADHD was estimated using logistic regression analysis. After adjustment for potential confounders, ADHD developed more frequently in children with blood lead levels of >2.17 $\mu$ g/dL (highest quartile) (RR 1.552, 95% CI 1.002-2.403) and in children with a single parent (RR 1.805, 95% CI 1.002-3.254). The RR was 3.567 (95% CI 1.595-7.980) in children with relatively high blood lead levels (>2.17 $\mu$ g/dL) from single-parent families, compared with those with low blood lead and a two-parent family. The ADHD risk in association with blood lead level was modified by family status.

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