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Headache at the onset of stroke: Frequencies, background characteristics and correlation with mortality

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Author(s)

Kazuo Shigematsu, Hiromi Nakano, Yoshiyuki Watanabe, Tatsuyuki Sekimoto, Kouichiro Shimizu, Akihiko Nishizawa, Atsushi Okumura, Masahiro Makino, Touru Seki, Kazuhiko Bando, Yasushi Kitagawa

ABSTRACT

Background: Headache is a common symptom and sometimes makes patients worry about stroke. Some stroke patients actually have headache. However, the frequency of headache at the onset of stroke and the relationship between headache and outcomes are not fully clarified. **Objective:** The aim of the study is to clarify frequency of headache, and to compare patients with headache with patients without headache in their characteristics, risk factors and early mortalities. **Methods:** We confirmed the presence or absence of onset headache in 1671 patients in the Kyoto Stroke Registry. We studied frequencies of headache, age, sex, blood pressure, arrhythmia, diabetes mellitus, hyperlipemia, tobacco and alcohol use and mortality of stroke patients. **Results:** Headache was observed in 21.4% of stroke patients; 12.0% in cerebral infarction (CI), 29.8% in cerebral hemorrhage (CH), and 93.9% in subarachnoid hemorrhage (SAH). Blood pressure at the first medical examination after stroke was higher in patients with headache. Factors associated with headache were age, diastolic blood pressure, hypertension and hyperlipemia histories, alcohol use, and paresis in CI, age, alcohol and tobacco use and paresis in CH and systolic blood pressure in SAH. The mortality rate 30 days after the stroke event was higher by 6.8% in CI and by 11.4% in CH in patients with headache than that in patients without headache. The hazard ratios for death between patients with headache and patients without headache were 4.94 (1.73 - 14.08, $p = 0.003$) in CI, and 3.20 (1.10 - 9.36, $p = 0.033$) in CH. **Conclusions:** Headache is common in stroke and predicts outcome. Headache is associated with younger age and alcohol use in CI and CH. Patients who could express presence of headache at the onset of CI or CH have higher mortality than patients who could express absence of headache. Headache is important both as an identifier of stroke and as a poor prognostic indicator in stroke.

KEYWORDS

Headache; Stroke; Outcomes; Mortality; Epidemiology

Cite this paper

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