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Risk factors of cerebral infarction following travel across different climate zones

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Background: Limited studies reported the risk of cerebral infarction associated with the change of climate. Our aim is to investigate the risk factors of cerebral infarction occurred after travelling across different climate zones.

Methods: Subjects travelled from northeast, northwest and north of China to Sanya during September 1st 2012 to February 28th 2013 were reviewed. Subjects who developed cerebral infarct (Group I) or did not (Group II) were compared and risk factors were identified. Logistic regression models were used to identify the risk factors of cerebral infarction following climate zone change.

Results: Two hundred and ninety one subjects (Group I: 144; Group II: 147) were analyzed. Group I patients have higher prevalence of history of cerebral vascular disease, hypertension, abnormal glucose metabolism, and carotid arterial stenosis, hyperhomocysteinemia. Group I also experienced a bigger change of temperature between the place of departure and Sanya. A lower mean arterial blood pressure travel upon arrival to Sanya and a bigger blood pressure difference before and after travel were observed in Group I. Cox regression analysis showed that male gender (OR=1.522, p=0.025), abnormal glucose metabolism (OR=4.617, p<0.001), cerebral arterial stenosis (OR=3.48, p<0.001), hyperhomocysteinemia (OR=1.417, p=0.040), bigger temperature difference between the place of departure and Sanya (each 10°C) (OR=1.423, p<0.001), low blood pressure before travel (OR=0.979, p=0.025) were independent risk factors of cerebral infarction following travel.

Conclusions: Cerebral infarction following travel across different climate zones is a newly recognized etiology of stroke, and may be associated with hemodynamic changes.

Biography

Jiatang Zhang has completed his PhD from Medical school of Chinese People's Liberation Army. He is the Vice-Director of department of neurology at Chinese People's Liberation Army General Hospital. He has published more than 10 papers in reputed journals.

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