Abstract: P5351

In-Flight Stroke in Korea

Authors:
H Park1, 1Inha University Hospital - Incheon - Korea (Republic of),

Topic(s):
Neurologic Disorders and Heart Disease

Citation:

Background: During flight, atmospheric pressure drop, low humidity and restricted motion occur. The environmental change can evoke the stroke occurrence. However, description of in-flight stroke case series has been limited until now. We investigated the clinical and flight trip characteristics of in-flight stroke cases in Korea.

Method: Since the opening of Incheon international airport, which is used by about 50 million people a year, in 2001, our hospital branch has been located at the airport and all the emergency stroke patients have been referred to our hospital. We performed retrospective review of the prospectively collected stroke registry and the information about the flight from January 2001 to December 2018.

Results: During the study period, 31 in-flight stroke cases were identified among total 1,452 ischemic stroke patients (17 men, 62±15 years old). Twenty-six patients had cerebral infarction, and four patients had transient ischemic attack. On etiological classification of cerebral infarction, 19 large artery atherothrombosis(61.3%), 1 septic embolism, 3 cryptogenic stroke, 3 cardioembolism(9.7%) and 1 cerebral venous thrombosis were identified. Six patients had Patent Foramen Ovale. Twenty-two patients reported to experience symptom around landing. Fourteen patients had flight for six hours or longer. Compared to the patients with long flight time(=6hrs), those with short flight time had the higher incidence of stroke occurrence around landings(32vs68%) and low incidence of unclear stroke onset. Poor outcome, defined as mRS 4 or higher, was associated with old age, unclear stroke onset, and early neurologic deterioration.

Conclusion: In-flight stroke is uncommon, and can easily be neglected during flight, which result in poor outcome. The stroke risk seems to be relatively high around landing, especially in the travelers with short flight time. The possibility of paradoxical embolism related to motion restriction seems low for stroke occurrence. Old age and unclear stroke onset are associated with poor outcomes.