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Isolated Headache and its Association with the Clinical and Radiologic Characteristics and the Outcome of Patients with Cerebral Venous Sinus Thrombosis

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Introduction: Headache is the main presenting symptom of the patients with cerebral venous thrombosis (CVT). However, it has been reported as the sole presenting symptom in only 20% of the patients; this may lead to a challenge and delay in the diagnosis of CVT. We aimed to assess the characteristics and outcome of CVT patients with isolated headache.

Methods: In a cross-sectional study, we included all adult patients with definite diagnosis of CVT from 2012 to 2016, in Namazi hospital, Shiraz, Iran. Demographic, radiologic and clinical data, risk factors, treatment and discharge outcome according to Modified Rankin Scale (MRS) were assessed and compared between the patients with isolated headache and the other patients through chi square, fisher exact and logistic regression. P-values less than 0.05 were considered significant.

Results: Of the total of 174 patients, 45 (26.0%) presented with isolated headache. Presence of isolated headache was more frequent in men (37.8% vs 22.7%, P-value=0.048). The sole headache was not associated with the interval between symptom onset and diagnosis of CVT (P-value=0.299). Positive history of venous emboli was reported in patients with isolated headache more than others (P-value=0.01). Among the risk factors, thrombophilia was more frequent in patients with isolated headache than others. (35.6% vs 20.3%, P-value=0.040). Right lateral sinus involvement was more common in patients with sole headache (62.2% vs 40.6%, P-value=0.012). In addition, early intracranial hemorrhage (ICH) (17.8% vs 40.6%, P-value=0.006), venous infarct (2.2% vs 18.0%, P-value=0.009) and expansion of ICH (0.0% vs 10.3%, P-value=0.022) occurred less frequently in patients with isolated headache. Surgical intervention was performed for none of the patients with sole headache. None of this patients expired in hospital course and in overall, they had better outcome (MRS<2) on discharge than the others. (P-value<0.001). However, after adjustment for other variables, isolated headache did not remained as a predictor of outcome in logistic regression model.

Conclusion: Risk of parenchymal lesions, surgical intervention and poor outcome is lower, but still exists in CVT patients with isolated headache. Thus, CVT should be considered as an important differential diagnosis in patients who refer with sole headache in order to prevent the possible delay in the diagnosis and also unfavorable outcome.