

Letter to Editor

Duplex Ultrasonography of carotid arteries in ischemic stroke patients and control group

To the Editor:

We would like to point out recognizing and addressing modifiable risk factors such as hypertension, hyperlipidemia, asymptomatic atheromatous carotid plaques and etc, can reduce the prevalence of stroke.

In our experience, we compared the frequency of extra cranial internal carotid artery (ICA) stenosis in Iranian stroke patients with control group strokes which has an annual rate of 100-300 in 100000 people in the general population^{1,2}.

During two years retrospective case-control study, 74 patients matched for age (P=0.875) and sex (P=0.31) in both groups, equally. The hemodynamic duplex ultrasonography of extra cranial carotid arteries in both groups measured the following parameters: ICA stenosis in 2- dimensional ultrasonography, ICA stenosis based on duplex ultrasonography findings $\left(\frac{\text{PSV}_{\text{ICA}}}{\text{PSV}_{\text{CCA}}}\right)$,

morphological homogeneity of atheromatous plaque, and frequency of ICA stenosis in different age groups^{3,4,5}. The data were analyzed by Chi square test

The frequency of severe stenosis in ICA and heterogenous plaque (> 60%) were significantly higher in stroke patients than control, in all age groups. This difference was more prominent in the over 70-years-old group (p<0.05). According to the previous studies, in Asian stroke patients, the frequency of extra cranial ICA plaque is lower than intracranial ones², but based on our study, in Iranian stroke patients, the incidence of extra cranial ICA stenosis is not uncommon, especially in over 70-years-old patients.

We conclude that early detection of atheromatous plaques, adoption of timely prevention and treatment measure can decrease stroke risk. So we recommend colour duplex ultrasonography of extra cranial ICA for individuals at risk of stroke, especially in late-adult ones.

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