Acta Neurophysiologica
ISSN: 2996-7554

Academic Strive
Researcher's perception is our reality

Letter to Editor *Volume 6 Issue 1*

Routine Brain and Neck CT Angiogram in Newly Detected Young Hypertensives: How Prudent Is It

Chakraborty D*

Department of Neurology, Apollo Multispeciality Hospitals, India

***Corresponding author:** Chakraborty Debabrata, Department of Neurology, Apollo Multispeciality Hospitals, 64/4A/9, Beliaghata Main Road, Kolkata, West Bengal, India, Pin-code: 700010, Tel: +91 9007338171; Email: drdchakraborty1980@gmail.com

Received Date: January 30, 2025; **Published Date:** February 10, 2025

Dear Editor

A 25-year-old man with a family history of essential hypertension was detected to have hypertension for two years. To rule out secondary cause, he underwent the usual tests and was found to be normal. After initial control for two years, he was recently requiring two antihypertensives even with excellent compliance and strict lifestyle measures. One day he presented to our emergency room with an acute stroke involving the left corona radiata, frontal, and temporal regions, and an angiogram revealed moyamoya disease. We noted that he never had any neurological symptoms earlier and hence never underwent brain imaging before this incident.

Hypertension has risen to 22.4% among 18–39-year-olds in the United States [1]. The prevalence of secondary hypertension in a population under the age of 40 is 29.6%, while it is 10% in the overall population [2].

Thus, we need to be more prepared to face hypertension in the young in the near future. Interestingly, the secondary causes of hypertension in this group may lead to high morbidity and mortality, and we need to rule them out more stringently.

In addition to the atherosclerotic etiology, inflammatory, infectious, autoimmune, neoplastic, congenital, or unknown factors can cause intracranial or extracranial stenosis. We need to remember that Moyamoya disease, vasculitis, vascular malformations, and fibromuscular dysplasia can all cause systemic hypertension due to either increased flow or obstruction to the blood flow that forces the body's counterregulatory mechanism to cause haemodynamic changes. The initial blood pressure may be controlled easily, but on follow-up, due to changes in hemodynamics, there may be fluctuations in blood pressure, and the antihypertensive requirement may increase (like in our patient), giving us a hint of an underlying secondary etiology. We routinely need to do a cerebral and neck CT angiogram in all newly detected young hypertensives, at least when the patient's blood pressure fluctuates or is not easily controlled (even though there is no new change in the system).

Besides this, an angiogram in young hypertensives may identify beforehand a subgroup of the population who are prone to having more vascular events in the future. For instance, vertebral artery hypoplasia and an incomplete posterior circle of Willis are associated with lower cerebral perfusion [3].

Because of this, it is very important to regularly check the blood pressure trend and learn about the vascular anatomy in newly diagnosed young people with high blood pressure to avoid terrible outcomes like what happened to us.

References

1. Wasco C, Khan Z, Willett A, Volio A, Carter C, et al. (2024) Incidence and prevalence of hypertension in 18-40-year-old patients referred for palpitations with normal cardiac monitor findings. J Clin Hypertens (Greenwich)

26(6): 696-702.

2. de Freminville JB, Gardini M, Cremer A, Camelli S, Baron S, et al. (2024) Prevalence and Risk Factors for Secondary Hypertension in Young Adults. Hypertension 81(11): 2340-2349.

3. Manghat NE, Robinson E, Mitrousi K, Rodrigues JCL, Hinton T, et al. (2022) Cerebrovascular Variants and the Role of the Selfish Brain in Young-Onset Hypertension. Hypertension 79(6): 1265-1274.