



THE ROLE OF ARTERIAL HYPERTENSION IN Cerebrovascular DISEASES

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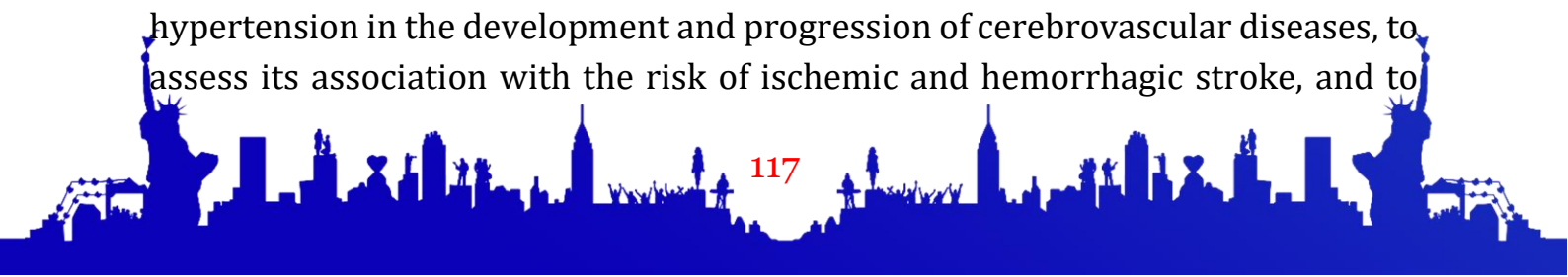
Relevance Of The Study. Arterial hypertension is one of the most important and potentially modifiable risk factors for cerebrovascular diseases and remains a major contributor to stroke-related morbidity, mortality, and disability worldwide. Persistent elevation of blood pressure causes progressive structural and functional changes in the cerebral vasculature, including endothelial dysfunction, arterial remodeling, increased vascular stiffness, and damage to small cerebral vessels. These pathological changes impair cerebral autoregulation and increase the susceptibility of the brain to both ischemic and hemorrhagic events.

Chronic uncontrolled hypertension is strongly associated with ischemic stroke, lacunar infarction, intracerebral hemorrhage, and cerebral small-vessel disease. It may also contribute to the development of white matter lesions, cognitive impairment, and progressive neurological disability. Furthermore, inadequate blood pressure control increases the risk of recurrent cerebrovascular events and may negatively affect long-term functional recovery and quality of life.

The clinical significance of arterial hypertension is further increased by the fact that it can remain asymptomatic for many years, while vascular damage progresses. Early detection and continuous monitoring of blood pressure therefore represent essential components of primary and secondary prevention of cerebrovascular diseases. Effective antihypertensive treatment and adequate control of cardiovascular risk factors can substantially reduce the probability of stroke and its complications.

Therefore, studying the role of arterial hypertension in cerebrovascular diseases is of considerable clinical and scientific importance. A better understanding of the relationship between blood pressure levels, duration of hypertension, vascular changes, and cerebrovascular outcomes may contribute to improved risk stratification, individualized preventive strategies, and reduction of stroke-related mortality and disability.

Aim Of The Study. The aim of this study is to evaluate the role of arterial hypertension in the development and progression of cerebrovascular diseases, to assess its association with the risk of ischemic and hemorrhagic stroke, and to





determine the importance of adequate blood pressure control in preventing recurrent cerebrovascular events and reducing neurological disability.

Discussion. Arterial hypertension is a major determinant of cerebrovascular disease and contributes to both ischemic and hemorrhagic stroke through chronic vascular injury. Persistent elevation of blood pressure promotes endothelial dysfunction, arterial stiffness, vascular remodeling, and cerebral small-vessel damage. These changes impair cerebral autoregulation and increase the susceptibility of cerebral vessels to ischemic and hemorrhagic injury. Chronic hypertension is particularly associated with small-vessel disease, lacunar infarction, white matter lesions, and intracerebral hemorrhage. The risk of cerebrovascular complications increases with prolonged and poorly controlled blood pressure elevation. Hypertension also contributes to recurrent stroke and may be associated with cognitive decline and reduced functional independence. An important clinical aspect is that blood pressure control should be considered not only after a cerebrovascular event but also as a long-term preventive strategy. Regular blood pressure monitoring and individualized antihypertensive therapy can reduce vascular risk and help prevent both first and recurrent strokes. Overall, effective management of arterial hypertension, together with control of other vascular risk factors such as diabetes, dyslipidemia, smoking, and obesity, is essential for reducing cerebrovascular morbidity and improving long-term neurological outcomes.

Conclusion. Arterial hypertension is a major modifiable risk factor for cerebrovascular diseases and plays a significant role in the development of both ischemic and hemorrhagic stroke. Long-term uncontrolled blood pressure contributes to cerebral vascular damage, small-vessel disease, recurrent cerebrovascular events, and neurological disability.

Early detection, regular blood pressure monitoring, individualized antihypertensive therapy, and comprehensive management of other vascular risk factors are essential for effective stroke prevention. Adequate control of arterial hypertension can reduce the risk of cerebrovascular complications and improve long-term neurological and functional outcomes.

