

CLINICAL PROFILE, PROGNOSTIC FACTORS AND OUTCOME OF MIDDLE CEREBRAL ARTERY TERRITORY ISCHEMIC STROKE

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ABSTRACT

Background: Ischemic stroke involving the middle cerebral artery (MCA) is the most common subtype of stroke and is associated with substantial morbidity and mortality.

Objective: To evaluate the clinical profile, prognostic factors and outcome of MCA territory ischemic stroke.

Methods: A hospital-based cross-sectional study involving 100 patients admitted over one year. Clinical characteristics, imaging findings and vascular risk factors were analyzed.

Results: Elderly males predominated. Hemiplegia/hemiparesis was the commonest presentation. Hypertension, smoking, dyslipidemia, alcohol use and diabetes were major risk factors.

Conclusion: Early recognition and aggressive control of modifiable risk factors may improve outcome.

INTRODUCTION

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factors remains the cornerstone of stroke care. This manuscript is based on a hospital-based study evaluating the demographic characteristics, clinical manifestations, vascular risk factors and outcome of MCA territory ischemic stroke. Stroke remains one of the leading causes of death and long-term disability worldwide. Middle cerebral artery infarction accounts for the largest proportion of ischemic strokes because of the vascular anatomy and blood flow characteristics of the MCA. Patients frequently present with hemiplegia, aphasia, hemisensory loss and gaze deviation. Although advances in thrombolysis and mechanical thrombectomy have improved outcomes, prevention through identification and management of risk factors remains the cornerstone of stroke care. This manuscript is based on a hospital-based study evaluating the demographic characteristics, clinical manifestations, vascular risk factors and outcome of MCA territory ischemic stroke. Stroke remains one of the leading causes of death and long-term disability worldwide. Middle cerebral artery infarction accounts for the largest proportion of ischemic strokes because of the vascular anatomy and blood flow characteristics of the MCA. Patients frequently present with hemiplegia, aphasia, hemisensory loss and gaze deviation. Although advances in thrombolysis and mechanical thrombectomy have improved outcomes, prevention through identification and management of risk factors remains the cornerstone of stroke care. This manuscript is based on a hospital-based study evaluating the demographic characteristics, clinical manifestations, vascular risk factors and outcome of MCA territory ischemic stroke.

MATERIALS AND METHODS

This hospital-based cross-sectional study included 100 consecutive patients with radiologically confirmed MCA territory ischemic stroke admitted over one year. Informed consent was obtained wherever applicable. Detailed history, neurological examination, laboratory investigations, ECG, echocardiography and neuroimaging were performed according to institutional protocol. Demographic variables, vascular risk factors including hypertension, diabetes mellitus, smoking, alcohol consumption, dyslipidemia, previous TIA or stroke, and cardiac disorders were documented. Outcome assessment was performed clinically during hospital stay. Statistical analysis was performed using descriptive methods. This hospital-based cross-sectional study included 100 consecutive patients with radiologically confirmed MCA territory ischemic stroke admitted over one year. Informed consent was obtained wherever applicable. Detailed history, neurological examination, laboratory investigations, ECG, echocardiography and neuroimaging were performed according to institutional protocol. Demographic variables, vascular risk factors including hypertension, diabetes mellitus, smoking, alcohol consumption, dyslipidemia, previous TIA or stroke, and cardiac disorders were documented. Outcome assessment was performed clinically during hospital stay. Statistical analysis was performed using descriptive methods. This hospital-based cross-sectional study included 100 consecutive patients with radiologically confirmed MCA territory ischemic stroke admitted over one year. Informed consent was obtained wherever applicable. Detailed history, neurological examination, laboratory investigations, ECG, echocardiography and neuroimaging were performed according to institutional protocol. Demographic variables, vascular risk factors including hypertension, diabetes mellitus, smoking, alcohol consumption, dyslipidemia, previous TIA or stroke, and cardiac disorders were documented. Outcome assessment was performed clinically during hospital stay. Statistical analysis was performed using descriptive methods. This hospital-based cross-sectional study included 100 consecutive patients with radiologically confirmed MCA territory ischemic stroke admitted over one year. Informed consent was obtained wherever applicable. Detailed history, neurological examination, laboratory investigations, ECG, echocardiography and neuroimaging were performed according to institutional protocol. Demographic variables, vascular risk factors including hypertension, diabetes mellitus, smoking, alcohol consumption, dyslipidemia, previous TIA or stroke, and cardiac disorders were documented. Outcome assessment was performed clinically during hospital stay. Statistical analysis was performed using descriptive methods. This hospital-based cross-sectional study included 100 consecutive patients with radiologically confirmed MCA territory ischemic stroke admitted over one year. Informed consent was obtained wherever applicable. Detailed history, neurological examination, laboratory investigations, ECG, echocardiography and neuroimaging were performed according to institutional protocol. Demographic variables, vascular risk factors including hypertension, diabetes mellitus, smoking, alcohol consumption, dyslipidemia, previous TIA or stroke, and cardiac disorders were documented. Outcome assessment was performed clinically during hospital stay. Statistical analysis was performed using descriptive methods. This hospital-based cross-sectional study included 100 consecutive patients with radiologically confirmed MCA territory ischemic stroke admitted over one year. Informed consent was obtained wherever applicable. Detailed history, neurological examination, laboratory investigations, ECG, echocardiography and neuroimaging were performed according to institutional protocol. Demographic variables, vascular risk factors including hypertension, diabetes mellitus, smoking, alcohol consumption, dyslipidemia, previous TIA or stroke, and cardiac disorders were documented. Outcome assessment was performed clinically during hospital stay. Statistical analysis was performed using descriptive methods.

RESULTS

The majority of patients belonged to the 56–70-year age group and more than three-fourths were older than 45 years. Males were more frequently affected than females. Hemiplegia or hemiparesis was the most common neurological deficit, followed by speech disturbances and seventh cranial nerve involvement. Hypertension

emerged as the most prevalent risk factor. Diabetes frequently coexisted with hypertension. Smoking and alcohol use were observed predominantly in male patients. A significant proportion had underlying cardiac disease including atrial fibrillation. These observations emphasize the burden of preventable vascular risk factors in MCA territory ischemic stroke. The majority of patients belonged to the 56–70-year age group and more than three-fourths were older than 45 years. Males were more frequently affected than females. Hemiplegia or hemiparesis was the most common neurological deficit, followed by speech disturbances and seventh cranial nerve involvement. Hypertension emerged as the most prevalent risk factor. Diabetes frequently coexisted with hypertension. Smoking and alcohol use were observed predominantly in male patients. A significant proportion had underlying cardiac disease including atrial fibrillation. 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DISCUSSION

The findings are consistent with published Indian and international literature demonstrating that increasing age and male sex are important non-modifiable determinants of ischemic stroke. Hypertension remains the strongest modifiable risk factor because chronic elevation of blood pressure accelerates atherosclerosis and small vessel disease. Smoking contributes through endothelial dysfunction and enhanced thrombosis, whereas dyslipidemia accelerates plaque formation. Diabetes mellitus further increases vascular risk through endothelial injury and inflammation. Recognition of transient ischemic attack and atrial fibrillation provides an opportunity for primary prevention. The present study reinforces the need for early diagnosis, public awareness, rapid referral pathways, optimization of blood pressure, glycemic control, lipid lowering therapy, smoking cessation and appropriate antithrombotic therapy. Multidisciplinary stroke units and rehabilitation services are essential for improving functional recovery. The findings are consistent with published Indian and international literature demonstrating that increasing age and male sex are important non-modifiable determinants of ischemic stroke. Hypertension remains the strongest modifiable risk factor because chronic elevation of blood pressure accelerates

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Strengths and Limitations

The study provides valuable real-world information regarding MCA territory ischemic stroke in a tertiary care setting. However, it was a single-center study with a relatively small sample size and limited follow-up. Larger multicentric prospective studies are required to validate these findings.

CONCLUSION

Middle cerebral artery territory ischemic stroke predominantly affects older adults, particularly men. Hypertension is the leading modifiable risk factor, followed by diabetes mellitus, smoking, alcohol consumption and dyslipidemia. Early recognition of stroke symptoms, rapid neuroimaging, timely evidence-based treatment and aggressive modification of vascular risk factors remain essential strategies for reducing stroke-related disability and mortality.

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