International Journal of Medical Science and Clinical Research Studies

ISSN(print): 2767-8326, ISSN(online): 2767-8342

Volume 03 Issue 08 August 2023

Page No: 1728-1732

DOI: https://doi.org/10.47191/ijmscrs/v3-i8-54, Impact Factor: 6.597

Prescription Pattern of Anti-Plateletic Drugs, Clinical Manifestations and Risk Factors in Cerebro Vascular Accident: A Prospective Observational Study

Dr. Ajnas K[1], Dr. Reeji Chinnu John[2], Dr. Rashida VPM[3], Dr. Jumana Fathima P[4], Mrs. Saritha M[5]

[1,2,3,4,5]Crescent College of Pharmaceutical Sciences

ABSTRACT

Aim: The aim and objective of the study is to evaluate the prescription pattern of anti-plateletic agents used in the treatment of stroke and clinical symptoms and risk factors, among hospitalized stroke patients. **Materials and Method:** A six-month prospective observational study that was carried out in the neurology department. A standard procedure was followed for the documentation and analysis of all the data. A total of 120 patients selected for the study who satisfying the inclusion and exclusion criteria. **Results:** Out of total 120 patients, the most prevalent type of stroke was found to be ischemic stroke of 92%. Females were found mostly to be diagnosed by stroke. Aspirin (65%) was found to be the most common anti-plateletic agent used in the treatment of stroke followed by clopidogrel and its combination. Majority of patients experienced slurred speech (37.5%), followed by weakness as the clinical presentation of stroke. Hypertension (49.1%) was found to be the most prevalent risk factor of stroke followed by diabetes mellitus. **Conclusion:** The study provides a concise summary of the clinical symptoms, risk factors, and prescription pattern of anti-platelet therapy in stroke patients. By proper identification and rectification of the strong contributable risk factor for stroke may lead to a good prognosis of treatment of stroke.

KEYWORDS: Prescription pattern, Anti-platelets, Clinical Manifestations, Risk factors, Ischemic stroke, Hypertension

ARTICLE DETAILS

Published On:
24 August 2023

Available on:
https://ijmscr.org/

INTRODUTION

Acute stroke is a clinical occurrence that causes a localized or generalized neurological disruption that lasts longer than 24 hours and results in mortality from an unknown reason other than a vascular origin.[1] Stroke can be either ischemic stroke or hemorrhagic stroke in origin. Transient ischemic attacks (TIAs), a type which lasts less than 24 hours and usually less than 30 minutes of duration.[2] Stroke is a key contributor to lifelong disability and the second largest cause of death worldwide. Currently, the burden of stroke in terms of mortality, morbidity and disability is increasing across the world.[3] The cumulative incidence of stroke range from 105 to 152/100,000 persons per year, and the prevalence ranged from 44.29 to559/100,000 persons in different parts of country.[4] There are modified and non-modifiable risk factors for stroke. Age, sexual orientation, family history, and race/ethnicity are risk factors that cannot be altered, but others that have been identified as modifiable risk factors include hypertension, smoking, nutrition, and physical inactivity. Currently, hypertension remains the most prevalent risk factor worldwide, including in our nation, despite the fact that other modifiable risk factors are becoming major.[5] The patient may experience weakness on one side of the body, slurring of speech, loss of vision, vertigo or falling.[2] Seizure, vomitting, headache and diminished level of consciousness are other associated symptoms. Patients with posterior circulation involvement may present with vertigo or diplopia. Patient may also experience dysarthria , visual field defects.Vision loss occurs due to optic ischemia caused by reduced blood flow in the internal carotid and ophthalmic artery.[6] According to AHA/ASA recommendations, intravenous tPA infusion is the preferred therapeutic option for patients who are available within the first three hours following the beginning of symptoms. For those who qualify, the treatment window can be extended to 4.5 hours.[7] Primary prevention of stroke includes antiplatelet therapy with aspirin, statin therapy and blood pressure management. Secondary forestallment with carotid endarterectomy, carotid

angioplasty, warfarin and heparin is useful.[8]

MATERIALS AND METHODS

Study Site: Department of Neurology in a Tertiary Care Hospital.

Study design: Prospective observational study.

Study material: Data Entry Form, Informed Consent Form.

INCLUSION CRITERIA

Patients of either sex with an age of above 60 or who had shown symptoms of ischemic and hemorrhagic stroke were included. Those patients who had confirmed diagnosis of stroke using CT/MRI scan.

EXCLUSION CRITERIA

Case sheets of patients with incomplete data. Patients who left against medical advice

STUDY METHOD

A total of 120 patients satisfying the inclusion and exclusion criteria were analysed. Detailed information regarding the study is explained to the participants undergoing the treatment in neurology department of a tertiary care hospital. Informed consent is obtained from participants who are willing to participate. Predefined case record form is used for the data collection. The case record form did not contain the patient's name, in order to protect the patient's identity at all point of time. Patient information regarding demographics, socioeconomic, life style and medication was collected from the patient medication profile. The risk factors and anti-platelet are assessed from patient medical records.

RESULTS

The study was accomplished in duration of six months in the neurology department of a tertiary care hospital. Based on inclusion and exclusion criteria 120 patients were taken for the study. In our study out of 120 patients, the occurrence of stroke was found more in case of females than that of males. **(Table 1)**

Based on diagnosis patients are grouped into 3 such as Ischemic stroke, Haemorrhagic stroke & TIA. The most prevalent type was found to be ischemic stroke. **(Table 2)**

In our study the occurrence of stroke was found largely in case of agegroup 65-69 yrs. and minimum occurrence in case of patients within 85-89 years age groups. **(Figure 1)**

Among 120 patients, most commonly prescribed antiplatelet drug was Aspirin. The use of Aspirin is more compared to Clopidogrel and combination therapy of Aspirin+Clopidogrel. **(Table 3)**. Among 120 patients, the majority of patients experienced slurring of speech **(Table no:4)**

Based on our study, the most prevalent risk factors were Hypertension 59 (49.1%) followed by Diabetes mellitus 43 (35.8%). **(Table 5)** and **(Figure 2)**

Table 1: Gender wise distribution of the study population

GENDER (n=120)	NO: OF PATIENTS (N)	PERCENTAGE (%)
Male	57	47%
Female	63	53%

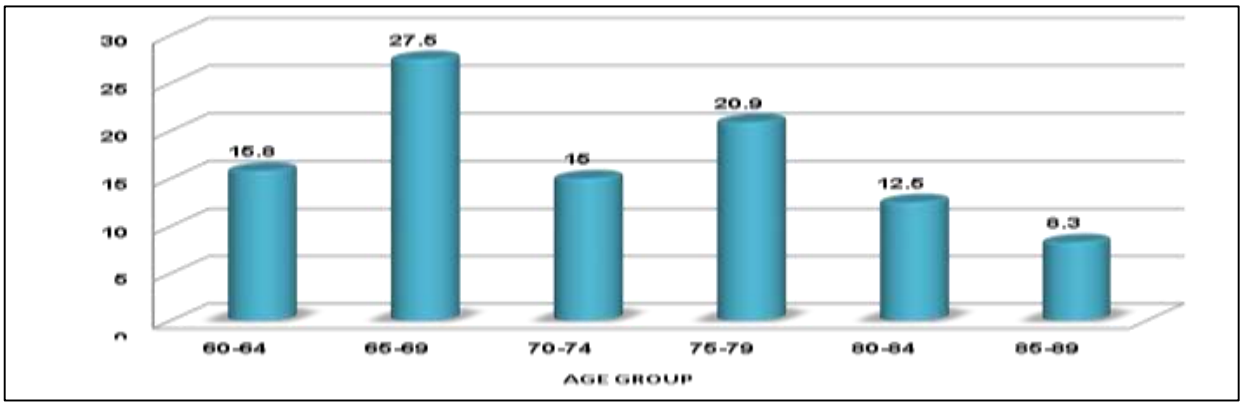

Figure 1: Age wise distribution of the study population

Table 2: Types of stroke and its prevalence

TYPES OF STROKE (n=120)	NO: OF PATIENTS (N)	PERCENTAGE (%)
Ischemic stroke	111	92
Hemorrhagic stroke	8	7
Transient ischemic attack	1	1

Table 3: Anti-plateletic drugs used in stroke patients

ANTIPLATELETS (n=120)	NO: OF PATIENTS (N)	PERCENTAGE (%)
Aspirin	78	46.1
Clopidogrel	60	35.6
Aspirin + Clopidogrel combination	31	18.3

Table 4: Clinical Manifestations of stroke patients

CLINICAL MANIFESTATION (n=120)	NO: OF PATIENTS (N)	PERCENTAGE (%)
Slurring of Speech	45	37.5
Right sided weakness	33	27.5
Left side weakness	24	20
Generalized weakness	23	19.1%
Abnormal behaviour	3	2.5%
Headache	7	14.1%
Decreased memory	3	2.5%
Pain and swelling	4	3.3%
Altered sensorium	11	9.1%
Giddiness	9	11.5%
Vomiting	6	13.3%
Decreased response	14	11.6%
Reduced food intake	4	3.3%
Tiredness	23	19.1%
Facial deviation	24	20%
Confusion	3	2.5%
LOC	2	1.6%
Aphasia	11	9.1%
Others	11	9%

Table 5: Risk Factors among stroke patients

RISK FACTORS (n=120)	NO: OF PATIENTS (N)	PERCENTAGE (%)
Hypertension (HTN)	59	49.1
Diabete mellitus (DM)	43	35.8
Heart disease	17	14.15
Dyslipidemia (DLP)	4	3.3
Chronic Kidney Disease (CKD)	5	4.1
Deep Vein Thrombosis (DVT)	2	1.6
Psychiartic disorder	9	7.5
Chronic Obstructive Pulmonary Disease (COPD)	3	2.5
Hypothyroidism	1	0.83
Smoking	6	5
Alcoholism	4	3.3

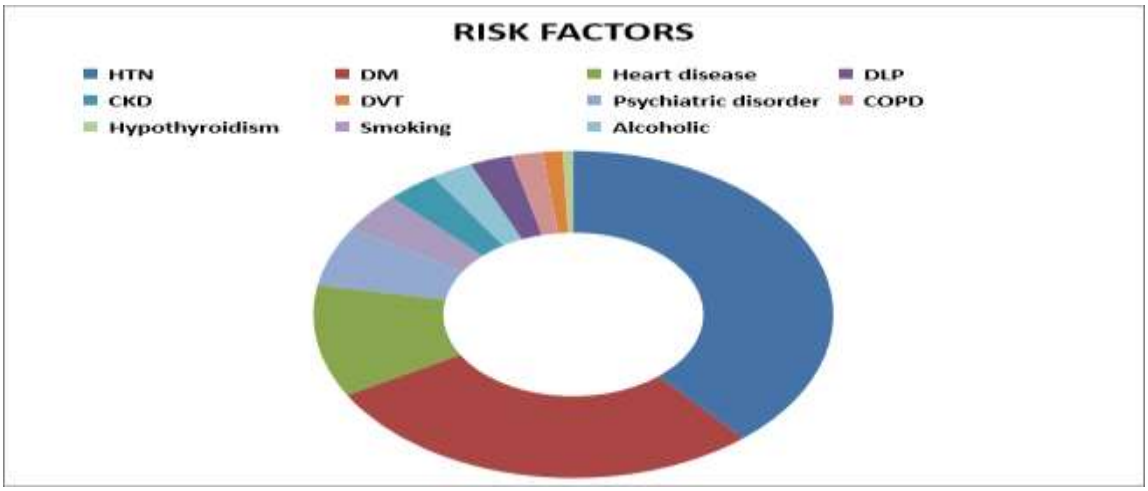

Figure 2: graphic representation of risk factors of stroke patients

DISCUSSION

Out of 120 patients enrolled in this study, 63 (53%) were females and 57 (47%) were males. The occurrence of stroke was found more in case of females than that of males. The incidence of stroke was high in females (57%) than males (43%) which can be due to: Age, Atrial fibrillation, High blood pressure, Pregnancy, Hormonal medications, Migraines. A similar study conducted by Reeves MJ et al[9] supports the findings of our study. With pregnancy, the stroke risk increases but the relative risk for intracerebral haemorrhage outweights the cerebral infarction. Most people admitted with stroke were in age group 65-69. Age-specific stroke rates are higher in men, but because of their longer life expectancy and much higher incidenceat older ages, women have more stroke events than men.

Based on the diagnosis of patients, stroke classified as Ischemic stroke, Haemorrhagic stroke & Transient Ischemic Attack (TIA). Out of 120 patients, the most prevalent type was found to be ischemic stroke (92%), followed by haemorrhagic stroke (7%) and TIA (1%). This result correlates with the study conducted by Punna S et al[10] also shows that out of 155 stroke cases, the majority had an ischemic stroke (91.61%) followed by haemorrhagic stroke (8.39%).

About a total of 169 antiplatelets drugs were given to the study population. Among them aspirin was found to be the most prevalent antiplateletic drug, out of them 65% receives aspirin followed by 50% receives clopidogrel and 25.8% receives a combination of aspirin with clopidogrel. Similar study conducted by Naqvi IA et al [11] shows that in acute phase and in secondary prevention of ischemic stroke, aspirin was the most widely used antiplatelet agent either alone or in combination therapy along with other antiplatelet agents.

Among 120 patients, the majority of patients experienced slurring of speech 45 (37.5%) followed by right side weakness 33 (27.5%), left side weakness 24 (20%), facial deviation 24 (20%), generalised weakness 23 (19.1%), tiredness 23 (19.1%), headache 7 (14.1%), vomiting 6 (13.3%), decreased response 14 (11.6%), altered sensorium 11 (9.1%), aphasia 11 (9.1%), giddiness 9 (7.5%), pain and swelling 4 (3.3%), reduced food intake 4 (3.3%), abnormal behaviour 3 (2.5%), decreased memory 3 (2.5%), confusion 3 (2.5%), LOC 2 (1.6%) and others 11 (9%). A similar study conducted by Vurumadla S et al[12] shows that out of 150 patients 66.66% presented with slurring of speech , followed by right side weakness (64.66%), headache (58.66%), facial deviation(32%). At onset of stroke, speech disturbance was frequently observed at early stage and thereby it is an good predictor of stroke.

The most prevalent risk factors presented by the stroke patients were Hypertension (49.1%), followed by Diabetes Mellitus (35.8%), heart disease (14.1%), Psychiatric disorder (7.5%), Smoking (5%), chronic kidney disease (4.1%), Dyslipidaemia (3.3%), Alcoholic (3.3%), Chronic Obstructive Pulmonary Disease (2.5%), Deep Vein Thrombosis (1.6%) and Hypothyroidism(0.83%). A similar study conducted by Fekadu G et al[13] the most common risk factor was identified as HTN (75.9%), followed by followed by family history (33.6%), alcohol intake (22.4%), smoking (17.2%) and heart failure (17.2%).

Hypertension is a particularly important risk factor for haemorrhagic stroke, althoughit contributes to atherosclerotic disease that can lead to ischemic stroke as well. Dyslipidaemia, however, is a particularly important risk factor for strokes because of atherosclerosis of extracranial and intracranial blood vessels. Proper management of disease decreases the incidence and progression of stroke.

CONCLUSION

The current study was carried out to ascertain the prescribing pattern of antiplatelet drugs in stroke treatment and its clinical manifestations and risk factors based on patient medical data. Platelets play a central role in the formation and progression of atherosclerotic plaque; aspirin, clopidogrel, the combination of aspirin and clopidogrel has been shown to be both effective and safe in the secondary prevention of adverse

events in patients with cerebrovascular disease. Based on the data, antiplatelet therapy is a critical component of secondary prevention of stroke and is recommended as a first-line treatment option after ischemic stroke or TIA. The most common clinical presentation of stroke was slurring of speech followed by weakness and deviation of mouth. Early detection of stroke may lead to an appropriate treatment plan hence good prognosis of treatment. The prevalence of stroke highly correlated with well-known comorbid risk factors as hypertension, diabetes, and dyslipidaemia. These results indicate that adequate treatments for these major risk factors such as hypertension and diabetes mellitus are required to for early detection and prevention of stroke.

REFERENCES

I. National Collaborating Centre for Chronic Conditions (UK). Stroke: National Clinical Guideline for Diagnosis and Initial Management of Acute Stroke and Transient Ischaemic Attack (TIA). London: Royal College of Physicians (UK); 2008. (NICE Clinical Guidelines, No. 68 (1), Introduction. Available from: https://www.ncbi.nlm.nih.gov/books/NBK53302/

II. Dipiro J T, Talbert R L, Yee G C, Matzke G R, Wells B G, Posey l M.Sroke. Pharmacotherapy A pathophysiologic Approach.8th ed.2011:353-362

III. Mozaffarian D, Benjamin EJ, Go AS, Arnett DK, Blaha MJ, Cushman M, Das SR, de Ferranti S, Despres JP, Fullerton HJ, et al. Heart disease and stroke Statistics-2016 update: a report from the American Heart Association. Circulation. 2016;133(4):e38–360.

IV. Kamalakannan S, Gudlavallet V S M, Gudlavalleti A S V, Goenka S, Kuper H. Incidence and Prevalance of stroke in India: A Systematic review. National Library of medicine.2017 August; 146(2):175-185

V. Boehme AK, Esenwa C, Elkind MSV. Stroke risk factors, genetics, and prevention. Circ Res. 2017;120(3):472–95.

VI. Raltson S H, Penman I D, Hobson R P, Strachan M WJ.Stroke medicine. Davidsons principles and Practice of medicine,23rd edition.2018:1151-1162

VII. Powers WJ,, Rabinstein AA,, Ackerson T,, Adeoye OM, Bambakidis NC,, Becker K,, et al. Guidelines for the Early Management of Patients With Acute Ischemic Stroke: A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association. *Stroke*. 2018;;49::e46.. 2018.

VIII. Hussainy SA, Habeeb M, Jeelani A, Sultana S et al., A prospective observational study on risk factorsand prescribing pattern of drugs used in stroke patients at a tertiary care teaching hospital; Sep-Oct2020, volume (10):NO 5-S (supplement issue).

IX. Reeves MJ, Bushnell CD et al., Sex differences in stroke- Epidemiology, clinical presentation, medical care and outcomes. Lancet Neurology; Oct 2008, volume (7), issue (10): 915-926.

X. Punna S, Shailendra D, Mohammad A B, Balla K S, Joseph A K, Edem S, et al. Clinical profile of patients with stroke in a tertiary care hospital setting in rural telangana. National Journal of physiology, Phamacy and practice.2020;10(6):473-477.

XI. Naqvi IA, Kamal AK, Rehman H. Multiple versus fewer antiplatelet agents for preventing early recurrence after ischaemic stroke or transient ischaemic attack. *Cochrane Database Syst Rev*. 2020;8(8):CD009716. doi: 10.1002/14651858.CD009716.pub2.

XII. Vurumadla S, Rakshith V et al., A study on symptoms, risk factors and prescribing pattern of drugs used in stroke patients. International journal of pharmacy and pharmaceutical sciences; Nov 2015, volume (7), issue (1): 421-426.

XIII. Fekadu G, Chelkeba L, Kebede A. Riskfactor, clinical presentation and predictors of stroke among adult patients admitted to stroke unit of Jimma university medical center, south west Ethiopia: A prospective observational Study. BMC Neuroogy.2019;19:187.