



## A CLINICAL STUDY OF STROKE IN INDIVIDUALS AGED 18 TO 45 YEARS IN A TERTIARY CARE HOSPITAL

### General Medicine

**Dr. Thota Lokesh** Post Graduate In General Medicine

**Dr. V. Rushendra Kumari** MD Associate Professor

**Dr. Ganta Rajashekar** MD DM Neurology

### KEYWORDS

#### BACKGROUND

- Stroke is defined by the world health organization as clinical syndrome consisting of rapidly developing clinical signs of focal (or global in case of coma) disturbance of cerebral function lasting more than 24 hours or leading to death with no apparent cause other than a vascular origin.
- Stroke is one of the causes for high morbidity and mortality across the world.
- Stroke affecting the young have devastating consequences on the individual, his family and society in general.
- The predisposing factors for stroke in young are smoking, alcohol, hypertension and dyslipidemias.
- The present study was undertaken to study the etiology, risk factors and clinical presentation of young patients with stroke in Sri Venkateswara Ramnarain Ruia Government General Hospital, Tirupati.

#### AIMS AND OBJECTIVES

- To assess clinical features in young patients presenting with stroke.
- To document the type of stroke in young.
- To determine various risk factors associated with stroke in young.

#### MATERIALS AND METHODS

##### Study Design :

A hospital based prospective observational study

##### Study Setting :

Patients admitted in acute medical care and medical wards in Sri Venkateswara Ramnarain Ruia Government General Hospital, Tirupati.

**Study Subjects :** 50 young patients between 18 to 45 years of age presenting with stroke

##### Study Period :

For a period of one year from June 2021 to June 2022

##### Ample Size :

50 Patients who met the inclusion and exclusion criteria.

##### Inclusion Criteria :

All patients between 18 to 45 years of age presenting with stroke.

##### Exclusion Criteria :

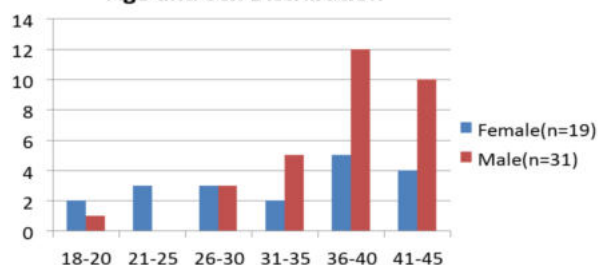
patients with history of trauma patients less than 18 years patients more than 45 years

##### Study Methods :

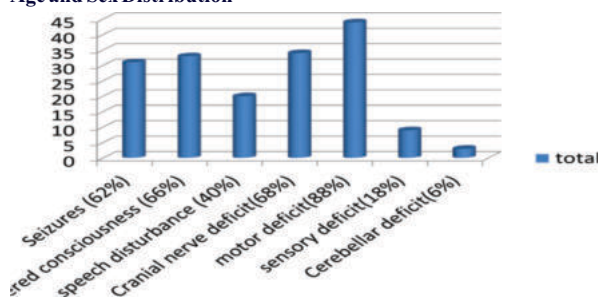
- Detailed clinical history and physical examination is done and is recorded in a proforma designed for this purpose.
- All patients are subjected to routine investigations, blood sugars and lipid profile, CT scan, carotid doppler, ECG and 2D ECHO.
- Lumbar puncture, CRP and ANA estimation are done if no cause has been identified.
- Standard treatment is given.

#### RESULTS

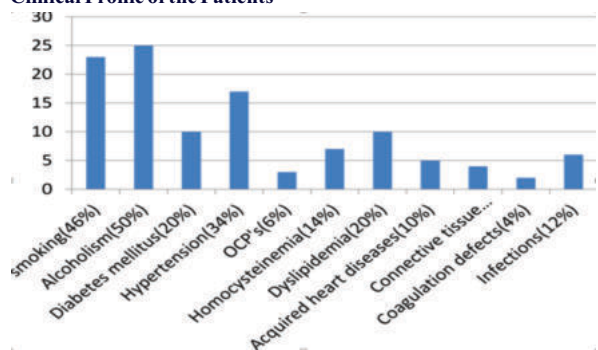
#### Age and Sex Distribution



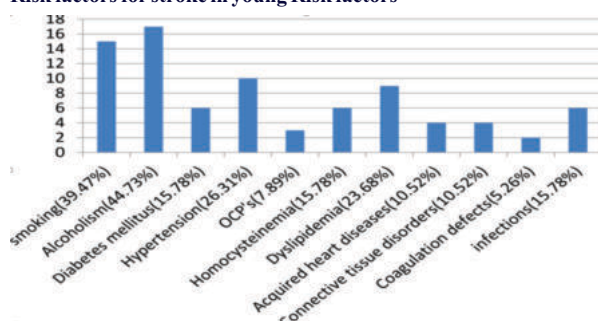
#### Age and Sex Distribution



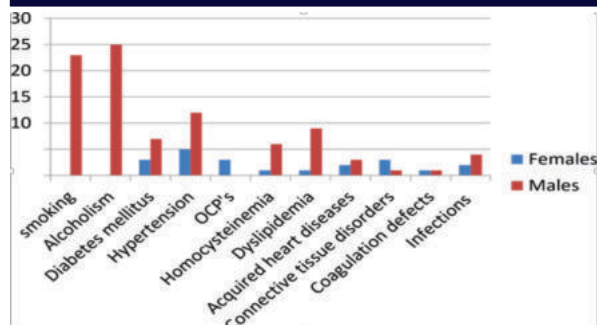
#### Clinical Profile of the Patients



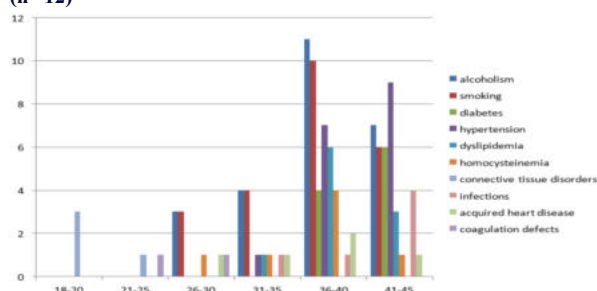
#### Risk factors for stroke in young Risk factors



#### Risk factors in relation with type of stroke Ischemic stroke (n=38)



Risk factors in relation with type of stroke Hemorrhagic Stroke (n=12)

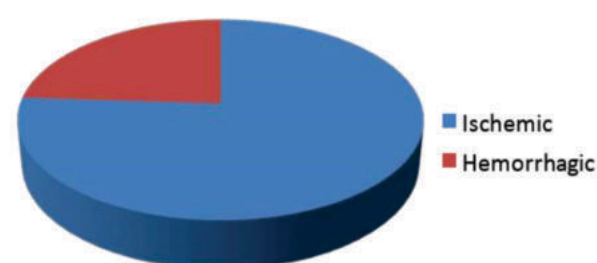


Risk factors in relation with age group

#### Type of stroke

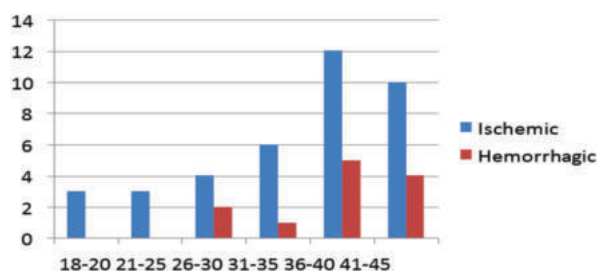
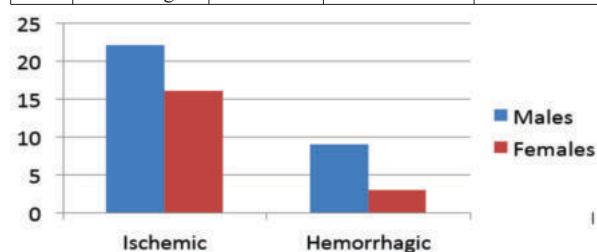
| S.NO | Type of stroke | Number (n=50) | Percentage(%) |
|------|----------------|---------------|---------------|
| 1    | Ischemic       | 38            | 76            |
| 2    | Hemorrhagic    | 12            | 24            |

Type of stroke (n=50) %



#### Gender and type of stroke

| S.NO | Type of stroke | Male(n=31) | Females(n=19) | Total(n=50) |
|------|----------------|------------|---------------|-------------|
| 1    | Ischemic       | 22         | 16            | 38          |
| 2    | Hemorrhagic    | 9          | 3             | 12          |

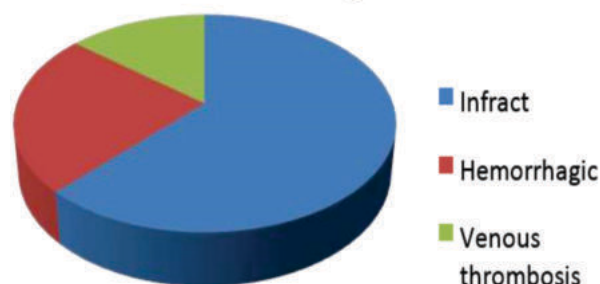


Type of Stroke in different age groups

#### CT scan findings in stroke in young

| S.NO | CT scan findings  | Number (n=50) | Percentage(%) |
|------|-------------------|---------------|---------------|
| 1    | Infarct           | 31            | 62            |
| 2    | Hemorrhagic       | 12            | 24            |
| 3    | Venous thrombosis | 7             | 14            |

Ct scan findings %



#### DISCUSSION

- Majority of the patients are in the 3<sup>rd</sup> and 4<sup>th</sup> decade of life. The mean age observed in the study is  $36.42 \pm 8.12$ .
- Males are more affected than females with male to female ratio of 1.6:1.
- Motor deficit (88%), Facial nerve palsy (68%), altered consciousness (66%) and seizures (62%) are prominent clinical features.
- The common risk factors are alcoholism (50%), smoking (46%), hypertension (34%), Dyslipidemia (20%), diabetes mellitus (20%), heart diseases (10%) and tuberculosis vasculitis (12%).
- Connective tissue disorders (8%), coagulation defects (4%) and OCP's (6%) are least commonly observed risk factors.
- Stroke due to ischemia (62%) is more common than stroke due to hemorrhage (24%) followed by cortical venous thrombosis (14%).
- Cortical venous thrombosis is observed more in females than males with commonest cause in females being dehydration in postpartum state.

#### CONCLUSION

- Atherosclerosis contributes to a large proportion of stroke in young patients, emphasizing the need for aggressive risk factor management.
- Evaluation of various risk factors of stroke in young are important as they may play a major role in predisposing an individual to a disease which has terrible impact on the family and the society.
- Stroke in young deserves an extensive evaluation that includes hematological, biochemical and angiographic studies.
- By these approaches a large number of potential causes can be detected and treatment of the patients can be tailored accordingly.

#### REFERENCES

- Aho K, Harmen P, Hatano S, Marquardsen J, Smirnov VE, Strasser T. Cerebrovascular diseases in the community. Results of WHO collaborative study. Bull. WHO 1980;58:113-30.
- Adams RD, Victor M: Cerebrovascular Disease. In: Principles of Neurology. Ropper AH, MA Samuels, Joshua P. Klein 10th edition. McGraw-Hill, New York. 2014; 778-785.
- Mehndiratta MM, Agarwal P, Sen K, Sharma B. Stroke in young adults. study from a university hospital in North India. Med Sci Monit 2004;10(9): CR535-541.
- Zunni FS, Ahmed M, Hassan KM, Prakash PS. Stroke: Incidence and pattern in Benghazi Libya. Ann. Saudi med 1995; 15: 32-37.
- Nagaraj D, Murthy SG, Taly AB, Subbakrishna K, Rao BSS.
- Risk factors for stroke: Relative risk in young and elderly. Neurology India 1998;46:18318
- Dalal PM. Strokes in young and elderly: Risk factors and strategies for stroke prevention; J Assoc Physicians India 1997; 45: 125 -130.
- Bogousslavsky J, Pierce P. ischaemic stroke in patients under age 45. Cerebral Ischemia: Treatment and prevention. Barnett H.J.M. et al. Neurologic clinics 2000; 10: 113 - 124.
- Alvarez J, Guiu JM, Somalla J, Molins M, Insa R, Molto JM, et al ischaemic stroke in young adults. Analysis of etiological subgroups. Acta Neurol Scand 1989; 80: 28-348.
- Hinton R, Beevers G. Meta analysis of relation between cigarette smoking and stroke. BMJ 1989; 298: 789-794.
- Grindal AB, Choen RJ, Saul RF, Taylor JR. Cerebral infarction in the young adults. Stroke 1978; 9: 39-42.