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Original Research Article

To evaluate the clinical utility of a locally developed Stroke Scale in the diagnosis of Acute Cerebrovascular Stroke.

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Abstract:

Background & Method: The aim of the study is to evaluate the clinical utility of a locally developed Stroke Scale in the diagnosis of Acute Cerebrovascular Stroke. Before being allowed to examine by the Raters, each patient was assessed for the Screening Criteria to rule out Stroke Mimics like Post-ictal state in Seizure disorders, Hypoglycemia, Trauma, Chronic illness superimposed by acute stressful conditions like infection.

Result: The number of conscious cases, unconscious cases and the total number of cases in which Facial asymmetry was present and the respective cases in which it was absent. Of the 25 conscious stroke cases, Facial Asymmetry was present in 15 (60%) and absent in remaining 10 cases (40%). Of the 25 unconscious stroke cases examined, Facial Asymmetry was present in 12 (48%) and absent in remaining 13 cases (52%).

Conclusion: We suggest that further large scale studies are needed to test its clinical validity, utility and reproducibility in other centers. According to the clinical importance of stroke and the advantages of early management, imaging plays a vital role in the patients' survival.

Keywords: clinical, stroke & acute cerebrovascular.

Study Designed: Observational Study.

1. Introduction

The first person to investigate the pathological signs of apoplexy was Johann Jacob Wepfer. Born in Schaffhausen, Switzerland, in 1620, Wepfer studied medicine and was the first to identify postmortem signs of bleeding in the brains of patients who died of apoplexy[1]. From autopsy studies, he gained knowledge of the carotid and vertebral arteries that supply the brain with blood[2]. He also was the first person to suggest that apoplexy, in addition to being caused by bleeding in the brain, could be caused by a blockage of one of the main arteries supplying blood to the brain; thus stroke became known as a Cerebrovascular Disease ("cerebro" refers to a part of the brain; "vascular" refers to the blood vessels and arteries) [3].

The first person to investigate the pathological signs of apoplexy was Johann Jacob Wepfer. Born in Schaffhausen, Switzerland, in 1620, Wepfer studied medicine and was the first to identify postmortem signs of bleeding in the brains of patients who died of apoplexy[4]. From autopsy studies, he gained knowledge of the carotid and vertebral arteries that supply

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2. Material & Method

This study was carried out in the Department of Medicine from Jan 2022 to Dec 2022 at Birsa Munda Government Medical College, Shahdol, total 100 subjects were included. Out of them, 50 subjects (25 conscious and 25 unconscious) were those who fulfilled the inclusion criteria of the study and they were the patients with a possible diagnosis of Acute Cerebrovascular Stroke.

Another set of 50 healthy subjects were included as Control. The controls included the relatives of the patients as well as hospital employees those who gave verbal consent to be included in the study. Before including them as control, a brief history / workup was done to exclude any illness.

Before being allowed to examine by the Raters, each patient was assessed for the Screening Criteria to rule out Stroke Mimics like Post-ictal state in Seizure disorders, Hypoglycemia, Trauma, Chronic illness superimposed by acute stressful conditions like infection.

INCLUSION CRITERIA

1. Patient who came within 24 hours of onset of symptoms.
2. Patient who had signs and symptoms pertaining to Stroke i.e. “Abrupt onset of neurological deficit that is attributable to a focal vascular cause”.

EXCLUSION CRITERIA

1. Patients with known Multi-system diseases or multi-organ failure where the symptomatology of stroke is confounded.
2. Patients with known severe / multiple metabolic abnormalities.
3. Patients with h/o head injury.

4. Results

TABLE 1: SEX DISTRIBUTION

Sex	Patients(n=50)	Controls(n=50)	Total
Male	33	26	59
Female	19	22	41
Total	50	50	100

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TABLE 2: FACIAL ASYMMETRY

	FACIAL ASYMMETRY PRESENT	FACIAL ASYMMETRY ABSENT
CONSCIOUS PATIENTS	15	10
UNCONSCIOUS PATIENTS	12	13
TOTAL	27	23

Table 3: OVERALL ANALYSIS

TOTAL SCORE	NO. OF SUBJECTS & (CONSCIOUS UNCONSCIOUS)	TRUE POSITIVES	FALSE NEGATIVES	TRUE NEGATIVES	FALSE POSITIVES
=10	0	0	50	50	00
≥9	0	0	50	50	00
≥8	2	2	48	50	00
≥7	11	11	39	50	00
≥6	19	19	31	50	00
≥5	22	22	28	50	00
≥4	34	34	16	50	00
≥3	39	39	11	50	00
≥2	46	46	04	50	00
≥1	62	50	00	38	12

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3. Discussion

Out of the total 50 patients, 33 were males and 19 were females. Out of the 50 controls, 26 were males and 22 were females. That is, out of total 100 subjects, there were 59 males and 41 females.

Stroke is one of the leading causes of mortality and morbidity worldwide. Approximately 20 million people each year suffer from stroke and of these 5 million do not survive. **(Dalal et al, 2007)[7]**. Developing countries account for 85% of global deaths from stroke (**Gupta et al, 2008**)**[8]**. Stroke is also a leading cause of functional impairments, with 20% of survivors requiring institutional care after 3 months and 15% - 30% being permanently disabled (**AHA, 2009**)**[9]**.

India is currently witnessing a stroke epidemic[10]. There are approximately 1100 qualified clinical neurologists working in India which is too less to cater the needs of 1.2 billion Indians (**Khadilkar S V et al, 2007**)[11]. So it becomes obvious that the first point of contact for a patient with suspected stroke[12].

4. Conclusion

We suggest that further large scale studies are needed to test its clinical validity, utility and reproducibility in other centers. According to the clinical importance of stroke and the advantages of early management, imaging plays a vital role in the patients' survival.

5. References

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