Title: **CORRELATION BETWEEN SERUM FERRITIN LEVEL AND SEVERITY IN ACUTE ISCHEMIC STROKE**

presented by : Dr. Sunita

under the guidance of~   Dr. B LAL.
Dr. Sumita Saluja

INTRODUCTION

INTRODUCTION

- Acute ischemic stroke has been associated with significant mortality and disability.

- Despite significant numbers associated with this clinical condition, biomarkers associated with its prognosis have not been looked upon extensively.

INTRODUCTION

- Few biomarkers have been studied one of which is serum ferritin levels.

- We aimed to estimate the serum ferritin levels in patients with acute ischemic stroke and to study its correlation with severity of acute ischemic stroke.

METHODOLOGY

METHODOLOGY

- This cross-sectional observational study included 80 patients of acute ischemic stroke aged ≥18 years presenting within 48 hours of symptom onset.

- Demographic data was collected and clinical assessment of severity was done using NIHSS score.

- Serum ferritin level was measured within 24 hours of admission.

METHODOLOGY

Inclusion criteria:

- Diagnosed patients of acute ischemic stroke (presentation within 48 hours).

- Age >18 years.

- Any gender

METHODOLOGY

Exclusion criteria:

- WHO defined Anaemia
- Chronic liver and kidney disease.
- Prior history of stroke (ischemic/haemorrhagic)
- Patients with clinical, evidence of central nervous system (CNS) infection
- Recent history of trauma and surgery
- Patients with Haematological cancer and CNS malignancies and other structural brain deformities
- Patients with recent infection and inflammation
- Blood/blood component transfusion in the previous 7 days
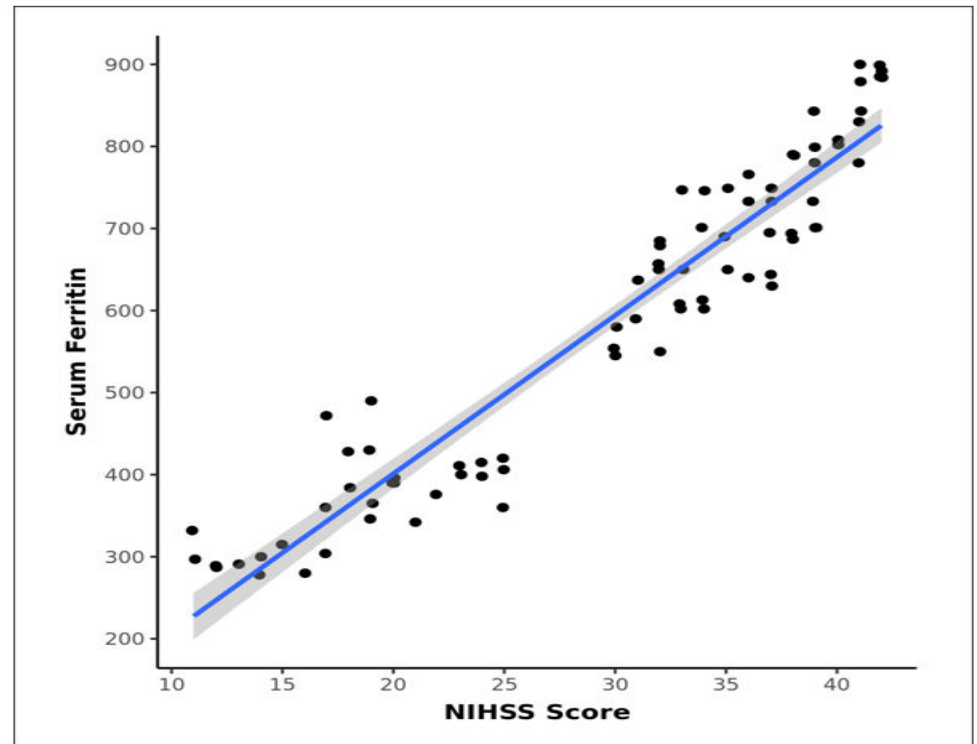- Patients on thrombolytic therapy

RESULTS

Results

- The mean serum ferritin levels were significantly higher in severe category as compared to moderate (298.62±17.31 vs669.86± 150.48; p<0.001).

- There was a very strong positive correlation between NIHSS Score and Serum Ferritin, and this correlation was statistically significant (r = 0.95, p = <0.001).

Results

Correlation	Spearman Correlation Coefficient	P Value
NIHSS Score vs Serum Ferritin	0.9	<0.001

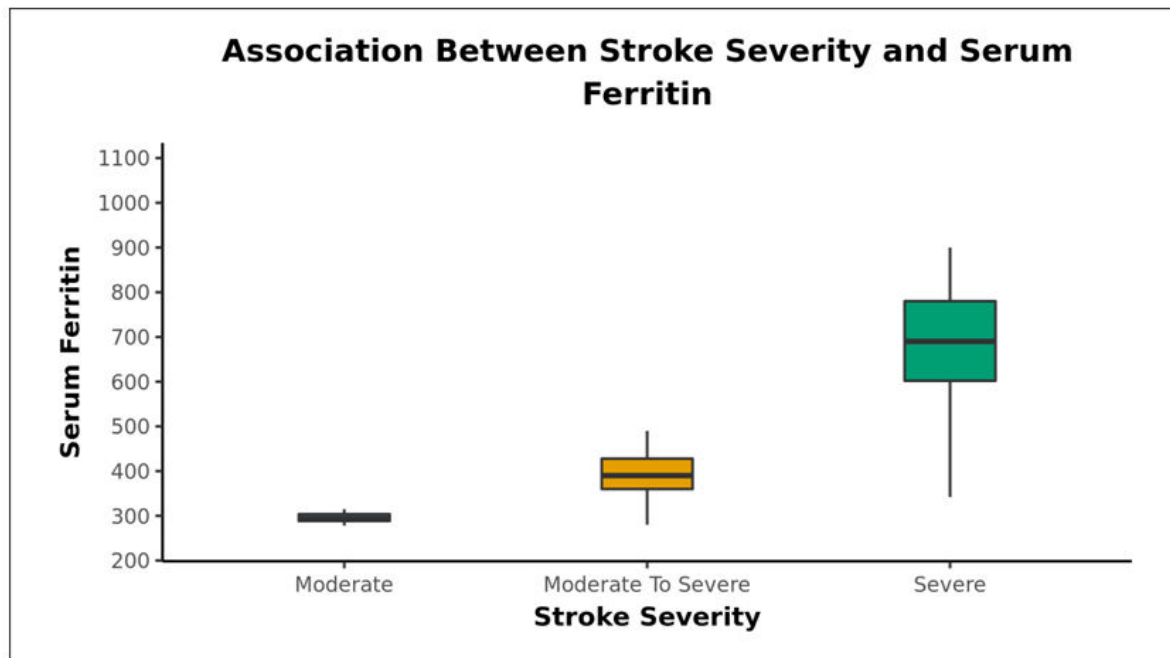Table 1: Correlation between NIHSS Score and Serum Ferritin

Fig 1: Scatter Plot of NIHSS Score vs Serum Ferritin

Results

Serum Ferritin	Stroke Severity			Kruskal Wallis Test	
	Moderate	Moderate to Severe	Severe	χ2	p value
Mean (SD)	298.62 (17.31)	387.31 (59.65)	669.86 (150.48)	39.933	<0.001

Table 2: Association between Serum Ferritin and Stroke Severity

Fig 2: Box-Whisker plot comparing 3 subgroups of stroke severity in terms of Serum Ferritin

DISCUSSION

DISCUSSION

- Future research is needed to investigate whether derangement in other parameters of iron profile is associated with increased severity of disease in patients with Acute Ischemic Stroke keeping in mind the newly found ferroptosis mechanism of brain cell injury.

- Well planned prospective studies with serial measurements of serum ferritin and its association with clinical deterioration could be done to elucidate its role as a prognostic marker in patients with acute ischemic stroke.

CONCLUSION

CONCLUSION

- There was significant positive correlation of serum ferritin with the severity of acute ischemic stroke (P < 0.001) and the levels of serum ferritin were found to be significantly higher in severe category.

- Thus, serum ferritin may be used as a marker of severity in acute ischemic stroke.