SUMMARY

**Background:** Association between mediators of inflammation particularly admission CRP and short-term outcome after acute ischaemic stroke have been established in several studies. Despite high morbidity and mortality associated with stroke in Sub-Saharan Africa, there is paucity of information on relationship between admission serum CRP and stroke outcome in Nigeria. The objective of this study is to determine the relationship between admission serum C-reactive protein and outcome as regards morbidity and mortality at 30-days in patients with acute ischaemic stroke.

**Method:** This study was carried out at Lagos University Teaching Hospital (LUTH), Ida-Araba. Patients who fulfilled the predetermined inclusion criteria for the study were prospectively enrolled and studied between October 2007 and June 2008. Siri raj stroke score was used in defining ischaemic stroke, though 30% of the patient had brain CT-Scan confirmation of cerebral infarction. Stroke severity was assessed using NIHS Score and classified as mild, moderate or severe. Samples were taken on admission for CRP estimation. Elevated CRP was defined as CRP value of greater than 4.5mg/L. Patients were followed up for 30-days and outcome measures applied at
the end of the study were 30-days mortality and functional outcome using MRS, and GOS. Relationship between admission CRP and outcome was determined.

**Results:** A total of 80 ischaemic stroke cases (47 men and 33 female) and 40 age and sex-matched controls were studied. Mean age in cases was 59.10 ± 15.02 years. Mean CRP in cases and controls were 17.67 ± 14.39mg/L and 1.14 ± 1.67mg/L respectively. The frequency of elevated CRP was 76.3% while overall case fatality was 25%. The case fatality in those with elevated CRP was significantly higher than in those with normal CRP. Mean CRP in those that died within 30-days was significantly higher than those that survived 30-days, (P-value <0.0001). Higher admission CRP was significantly associated with reduced length of survival in the patients that died, (p-value <0.0001). Significantly higher percentages of patients with elevated CRP had moderate/severe disability (unfavorable outcome) than those with normal CRP. Mean CRP in those with unfavorable outcome was significantly higher than those with favorable outcome, (p <0.0001). High admission CRP also correlated positively with severity of stroke on admission.

**Conclusion** Prevalence of elevated CRP using reference value of 4.5mg/L was 76.3% and higher admission serum CRP was associated with reduced length of survival. Higher case fatality, higher frequencies of severe/moderate disability were
associated with higher levels of admission serum CRP. Admission serum CRP was a predictor of 30-days morbidity and mortality.