Title: EVALUATION OF SERUM ALBUMIN AS A PROGNOSTIC MARKER IN LASSA FEVER DISEASE.

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Background

Lassa fever virus infection (LFVI) is endemic in Nigeria. There is a dearth of data on the clinical and biochemical markers of severe disease and their association with morbidity and mortality in this environment. This study aimed to evaluate serum albumin as a marker of severe disease and mortality at Irrua.

Methods

This was a retrospective review of the medical records of patients with confirmed Lassa fever admitted between January 2025 and April 2025. Serum albumin levels were obtained at admission (baseline), 5th and 10th day respectively. These values were correlated with disease progression and disease outcome. Continuous data were presented as mean and standard deviation while categorical variables by frequency and proportions . Chi square was used for test of association. Significant p-value was set at <0.05.

Results

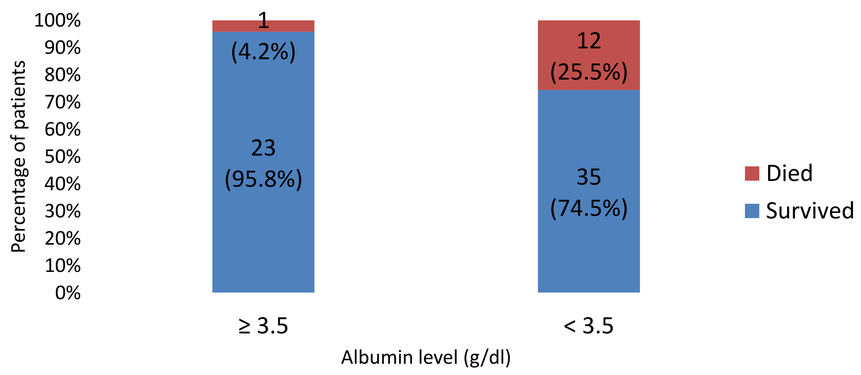
Data from a total of 78 patients were reviewed. The mean age of the patients was 37.6 ± 14.0 years. Majority were males (M:F ratio of 1.43:1).The mean albumin levels in those who died were significantly lower than those who survived at all time points (p= 0.002, 0.049 and <0.0001 at baseline, day 5 and 10 respectively).

Acute kidney injury (AKI) was present in almost half of patients with hypoalbumineamia below 3.5 mg/dl (42.6%) while mortality was higher in those with relatively lower albumin levels (below 3.0mg/dl). Mortality was significantly higher with baseline hypoalbuminemia than with normal serum albumin (25.5% vs. 4.2% respectively, p=0.028), although insignificantly less in those who had albumin infusion compared to those who didn't receive albumin.

Table 3: Albumin levels and treatment outcome in patients

Variable	Survived n (%) Mean ± SD	Died n (%) Mean ± SD	P-value
Albumin level (g/dl)			
At baseline	3.18 ± 0.59 (n=58)	2.58 ± 0.66 (n=13)	0.002
At day 5	3.27 ± 0.60 (n=56)	2.80 ± 0.44 (n=7)	0.049
At day 10	3.29 ± 0.56 (n=32)	2.10 ± 0.36 (n=4)	<0.001
Baseline albumin (g/dl)			
≥ 3.5	23 (95.8)	1 (4.2)	0.028
< 3.5	35 (74.5)	12 (25.5)	

Figure 2: Albumin level and treatment outcome



Conclusions and Recommendations

Low serum albumin level, particularly in the presence of AKI and inadequate doses of albumin infusion impacts on mortality in Lassa fever. The prohibitive cost of albumin infusion in a resource-poor setting is a major challenge. Better health care financing and more studies are recommended to improve survival.

Keywords: serum albumin, prognostic marker, Lassa fever, evaluation.
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