

1 **High sensitivity C-reactive protein: A potential ancillary**
2 **biomarker for malaria diagnosis and morbidity**

3 **SUPPLEMENTARY DATA**

4 Table S1 shows the partial correlation between hs-CRP and hematological and biochemical
5 parameters after adjusting for age and gender among children with malaria. There were negligible
6 correlations between hs-CRP and the haemato-biochemical parameters.

7 **Table S1. Partial correlation between hs-CRP and hematological and biochemical**
8 **parameters after adjusting for age and gender among children with malaria**

| Correlation | Correlation co-efficient |
|-----------------------------|-----------------------------|
| Hs-CRP vs. Na ⁺ | -0.162 |
| Hs-CRP vs. K ⁺ | -0.089 |
| Hs-CRP vs. Cl ⁻ | -0.146 |
| Hs-CRP vs. AST | -0.076 |
| Hs-CRP vs. ALT | -0.026 |
| Hs-CRP vs. AST/ALT | -0.088 |
| Hs-CRP vs. Total Bilirubin | 0.086 |
| Hs-CRP vs. Creatinine | -0.045 |
| Hs-CRP vs. Ca ²⁺ | -0.049 |
| Hs-CRP vs. Haemoglobin | -0.235 |
| Hs-CRP vs. WBC | -0.033 |
| Hs-CRP vs. RBC | -0.156 |
| Hs-CRP vs. Platelet | -0.292 |
| Hs-CRP vs. Neutrophil | 0.161 |
| Hs-CRP vs. Lymphocyte | -0.178 |
| Hs-CRP vs. Mps | 0.276 |

9 WBC; White blood cell, RBC; Red blood cell, Mps, Malaria parasite, $p < 0.05$ was considered statistically significant
10 (p values of significant variables are in bold print).

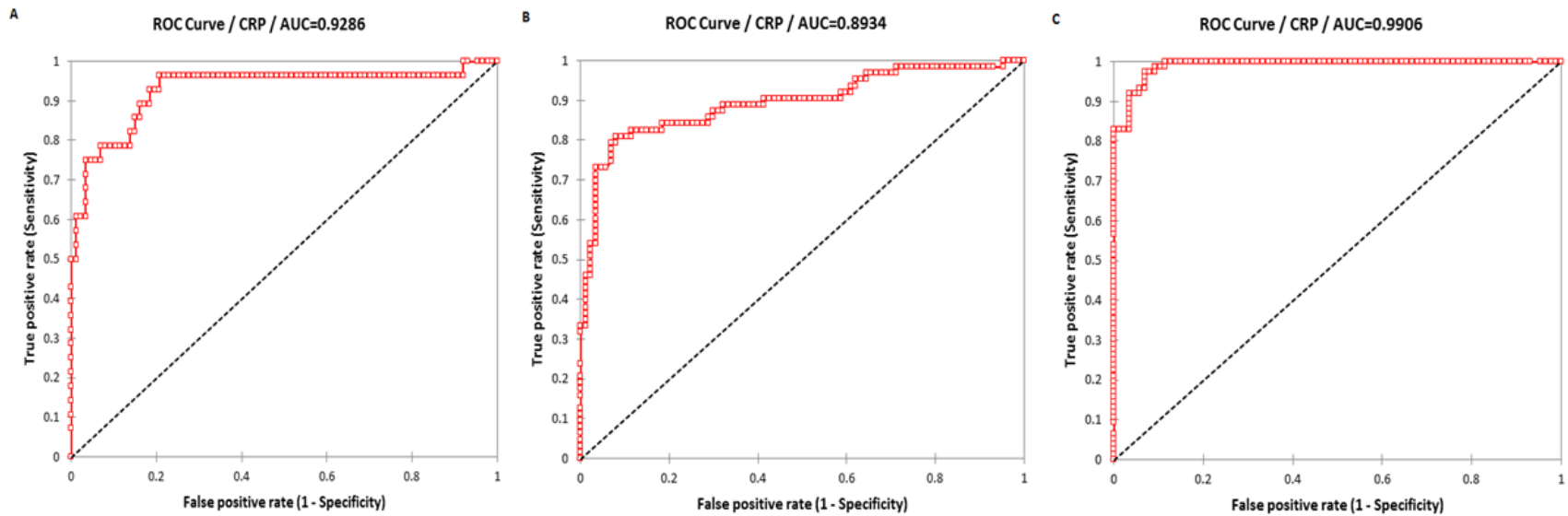
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12 Table S2 shows the hematological and biochemical parameters categorized by degree of malaria
13 parasitaemia. Participants with high malaria parasitaemia had statistically significant elevated
14 temperature, WBC count, Neutrophil count, AST, and Total bilirubin, with a corresponding lower

15 weight, haemoglobin level, RBC count, platelet count, lymphocyte count, sodium ion, chloride ion, and Creatinine level.

16 **Table S2. Hematological and biochemical parameters categorized by degree of malaria parasitaemia**

| Parameters | Control (N=100) | Low (N=28) | Moderate (N=62) | High (N=77) | P-value | Significant pairs |
|--------------------------------|-----------------|---------------|-----------------|--------------|----------|------------------------------------|
| Temperature (°C) | 38.02 ± 0.23 | 37.1 ± 0.21 | 37.87 ± 0.12 | 39.11 ± 0.34 | < 0.0001 | L vs H ; M vs H |
| Weight (kg) | 36.09 ± 1.11 | 21.99 ± 3.19 | 22.53 ± 2.12 | 20.4 ± 1.72 | < 0.0001 | Ctrl vs L, M, and H |
| Haemoglobin (g/dl) | 12.22 ± 0.08 | 10.54 ± 0.39 | 10.58 ± 0.52 | 9.97 ± 0.19 | < 0.0001 | Ctrl vs L, M, and H |
| WBC (x10 ³ /μl) | 6.60 ± 0.25 | 7.25 ± 0.51 | 8.70 ± 0.47 | 9.17 ± 0.44 | < 0.0001 | Ctrl vs M, and H; L vs H |
| RBC (x10 ⁶ /μl) | 4.82 ± 0.04 | 4.43 ± 0.17 | 4.19 ± 0.11 | 4.11 ± 0.08 | < 0.0001 | Ctrl vs M, and H |
| Platelet (x10 ⁹ /l) | 336.6 ± 7.83 | 267.8 ± 16.07 | 240.6 ± 13.21 | 179.6 ± 7.46 | < 0.0001 | Ctrl vs L, M, and H; H vs L, and M |
| Neutrophil (%) | 35.94 ± 1.01 | 55.37 ± 2.98 | 53.24 ± 2.26 | 63.96 ± 1.92 | < 0.0001 | Ctrl vs L, M, and H; H vs M |
| Lymphocyte (%) | 50.21 ± 0.93 | 35.25 ± 3.42 | 37.79 ± 2.36 | 28.88 ± 1.84 | < 0.0001 | Ctrl vs L, M, and H ; H vs M |
| Na ⁺ (mmol/l) | 139.1 ± 0.28 | 138.5 ± 1.42 | 138.9 ± 1.03 | 132.9 ± 2.08 | 0.0009 | Ctrl vs H; H vs M |
| K ⁺ (mmol/l) | 4.01 ± 0.04 | 4.52 ± 0.13 | 4.41 ± 0.12 | 4.17 ± 0.10 | 0.001 | Ctrl vs L, and M |
| Cl ⁻ (mmol/l) | 103.2 ± 0.23 | 104.2 ± 1.12 | 104.1 ± 0.68 | 100.9 ± 1.23 | 0.0229 | H vs M |
| AST (UI/L) | 25.49 ± 0.65 | 35.65 ± 4.12 | 36.54 ± 2.19 | 39.81 ± 2.62 | < 0.0001 | Ctrl vs L, M, and H |
| ALT (UI/L) | 24.77 ± 0.94 | 15.71 ± 2.78 | 15.71 ± 1.04 | 16.22 ± 1.23 | < 0.0001 | Ctrl vs L, M, and H |
| AST/ALT Ratio | 1.19 ± 0.07 | 2.73 ± 0.27 | 2.70 ± 0.21 | 2.72 ± 0.13 | < 0.0001 | Ctrl vs L, M, and H |
| Total Bilirubin (mg/dL) | 0.71 ± 0.05 | 0.59 ± 0.11 | 0.91 ± 0.16 | 1.19 ± 0.17 | 0.0043 | Ctrl vs H |
| Creatinine (mg/dL) | 0.72 ± 0.03 | 0.58 ± 0.06 | 0.52 ± 0.03 | 0.48 ± 0.03 | < 0.0001 | Ctrl vs M, and H |
| Total Ca ²⁺ (mg/dL) | 6.86 ± 0.13 | 9.61 ± 0.39 | 8.90 ± 0.23 | 8.89 ± 0.25 | < 0.0001 | Ctrl vs L, M, and H |

17 One-way ANOVA was used to compare continuous variables among groups, followed by the Tukey's Honestly Significant Difference test for pairwise comparison.
18 $p < 0.05$ was considered statistically significant (p values of significant variables are in bold print). RBC, Red blood cell, AST; Aspartate transaminase, ALT;
19 Alanine transaminase, hs-CRP; high sensitivity C-reactive protein.
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22 **Figure S1. AUC for hs-CRP in detection of Low parasitaemia (A), Moderate parasitaemia (B) and High parasitaemia (C)**

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