

POSTER PRESENTATIONS

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# Characterization of severe *Plasmodium falciparum* malaria patients in an Angolan general ICU

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## Introduction

Malaria is the most important human parasitic disease, causing an estimated 500 million cases and more than 1 million deaths annually. *Plasmodium falciparum* is responsible for the most serious form of the disease with a significant mortality rate.

## Objective

To characterize severe *Plasmodium falciparum* malaria patterns in patients admitted to an Angolan general ICU.

## Methods

A retrospective study based on medical records of adult patients with severe *Plasmodium falciparum* malaria admitted between January 2006 and December 2008 at an Angolan University-affiliated teaching hospital. We collected data on demographics, malaria-related immunity status, clinical presentation, WHO malaria severity criteria, laboratory findings and outcome. Continuous data were analyzed with Students t-test. A *P* of less than 0.05 was regarded to be significant.

## Results

Out of 114 patients admitted with diagnosis of malaria, we enrolled 56 patients. Forty-four (79%) were males. The mean age was 43.0±12.9. Twenty-eight (50%) were non-immune and only two were adherent to chemoprophylaxis, but reported taking it incorrectly. Fifty-two percent were admitted during the second trimester. The mean APACHE II was 15.4±8.7 with a mean predicted dead rate of 25.9%. The mean SOFA on admission was 7.6±3.6. Fever (82%) followed by headache (41%) and gastrointestinal symptoms (36%) were the most common symptoms on admission and jaundice (61%) the most common sign. The mean duration of symptoms prior to presentation at

the ED was 6.1 ±4.3 days. Malaria diagnosis was confirmed within 24 hours of admission to our hospital. In all the cases. Twelve patients presented 2 or more WHO severity major criteria. Forty-one patients were treated with quinine and twelve with artemether. Nineteen patients (34%) required ventilatory support, twenty (36%) intermittent hemodialysis and twelve (21%) vasopressor support. The mean ICU length of stay was 5.5±3.8 days. The 2-day mortality rate and total ICU mortality rate recorded was 10.7% and 37.5%, respectively.

## Conclusions

In this review, the criteria usually pointed as predictors of a poor outcome on sepsis cases were found to have statistical significance in malaria-related deaths.

**Table 1 Characteristics of survival and nonsurvival groups**

| Survival (n=35)  | Non-survival (n=21) | p             |         |
|--|---------------------|---------------|---------|
| Age, Mean ± SD   | 43.7 ± 12.5         | 42.0 ± 14.0   | 0.66    |
| APACHE 11, Mean ± SD   | 12.1 ± 6.2          | 21.0 ± 9.4    | <0.0001 |
| SOFA on admission (total), Mean ± SD                                 | 6.5 ± 3.3           | 9.6 ± 3.5     | 0.0013  |
| Non-Immune, n(%)   | 18(51.4)            | 10 (47.6)     | 0.79    |
| Two or more WHO severity criteria, n(%)                              | 1 (0.3)             | 11 (52.4)     | <0.0001 |
| Platelets (x10 <sup>3</sup> /mm <sup>3</sup> ), Mean ± SD            | 85.8 ± 86.3         | 65.3 ± 57.3   | 0.35    |
| Bilirubin (mg/dl), Mean ± SD   | 4.8 ± 4.7           | 6.9 ± 7.2     | 0.08    |
| Creatinine (mg/dl), Mean ± SD  | 3.6 ± 3.1           | 3.9 ± 2.6     | 0.67    |
| C-reactive protein (mg/l), Mean ± SD                                 | 118.0 ± 87.5        | 140.0 ± 103.0 | 0.45    |
| Arterial lactates (mmol/l), Mean ± SD                                | 3.4 ± 2.89          | 5.4 ± 4.6     | 0.019   |
| Parasitemia (x10 <sup>3</sup> parasites/mm <sup>3</sup> ), Mean ± SD | 30.5 ± 28.8         | 27.8 ± 36.7   | 0.73    |

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