Abstract

Objective: The study explored the effects of Plasmodium vivax infection on the balance of pro- versus anti-inflammatory cytokines and chemokines and their relationship with some clinical and epidemiological outcomes. Methods: Thirty-five pregnant women were recruited. Of these, 15 subjects had malaria at delivery (GM+), and 20 had no exposition to infection throughout the pregnancy (GM-) and at delivery. Epidemiological and clinical data were recorded after reviewing the clinical records. At delivery, whole blood from the mother as well as placental tissue was collected. Diagnosis of infection was performed by thick smear and a polymerase chain reaction (PCR). Expression of pro-inflammatory and anti-inflammatory cytokines and chemokines was measured by a real time PCR. Results: The clinical and epidemiological variables explored were similar in both groups, with the exception of gestational age. When comparing the GM+ group with the GM- group, it is clear that although the differences generally are not significant, pro-inflammatory cytokines are elevated in both maternal blood and placental; anti-inflammatory ones are elevated in the mother and reduced in the placenta, and the chemokines are reduced in both compartments, except for MCP-1 which is elevated in all. Conclusion: The results appear to be strongly affected by the small number of women with GM by P. vivax at childbirth. Additional studies are needed with larger groups in this and other regions of the country.

Keywords

Plasmodium vivax, malaria, pregnancy, placenta, cytokine, chemokine, Colombia.