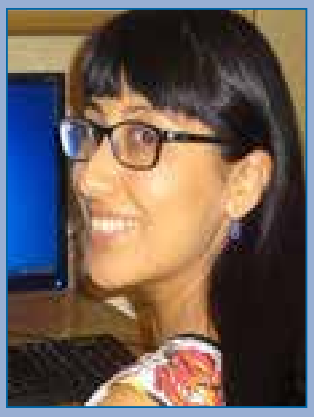

Elizabeth Melisa Villasís Mayurí

Ms. Villasis is a researcher from the Malaria Laboratory of the Universidad Peruana Cayetano Heredia in Lima-Peru. Her research is focus in the understanding of the cellular and molecular mechanism that regulates the invasion process of P. falciparum into the red blood cell, as well as the immune response that this process generate in the human host and to prove whether this last process is somehow associated with the common detection of asymptomatic parasitemia in the Peruvian amazon jungle.

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Functional assessment of monoclonal antibodies for their ability to block in vitro *the invasion of Peruvian* P. falciparum *parasite isolates into erythrocytes*

Elizabeth Melisa Villasís Mayurí[1]

[1] *Universidad Peruana Cayetano Heredia*

Abstract:

Introduction

Studies on malaria in the Peruvian Amazon have demonstrated the association between IgG response in individuals infected with low parasitemia and asymptomatology against invasion proteins: EBA-175, RH2b and MSP10 of *P. falciparum*. For this study, we hypothesized that antibodies against these proteins would be able to inhibit the invasion process of *P. falciparum* isolates from the Peruvian Amazon into erythrocytes *in vitro*.

Methodology

Three monoclonal antibodies (mAb) against EBA-175, three mAb against RH2b, seven mAb and a polyclonal antibody (pAb) against MSP10 were characterized by Western blot, IFI and confocal microscopy methodologies and later evaluated functionally in Inhibition Assays (IIA) in order to show if they could inhibit the merozoite invasion process in to erythrocytes *in vitro.*

Results

The mAb evaluated against EBA-175 and RH2b proteins were not able to detect their target protein. Only the mAb anti-MSP10 directed against the N-terminal region (anti MSP10-1) and the pAb anti-MSP10 was shown to be specific for the detection of MSP10 by all methodologies. They also showed an inhibitory capacity of up to 40% [100 μg / mL] and 19-100% [0.1-10 mg / mL], respectively.

Conclusions

This the first study to evaluate the role of anti-MSP10 antibodies in the invasion of *P. falciparum* isolates, from the Peruvian Amazon, into the erythrocyte *in vitro*.