29th ECCMID Amsterdam, Netherlands 13 – 16 April 2019
The congress of ESCMID

O1154 Molecular surveillance of *Plasmodium falciparum* in Peruvian jungle

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Background:

Malaria in the Peruvian Amazonia has increased rapidly since 2012. A wrong etiological diagnosis, submicroscopic malaria infections or resistance to antimalarial drugs may contribute to malaria transmission. Due to the scarce evidence about the genetic profile of *Plasmodium falciparum* in Peru, the objective of this work was to perform a molecular surveillance of *P. falciparum* in this Amazonian region.

Materials/methods: Prospective study of 518 adult patients, where 307 attended to the Regional Hospital of Loreto "Felipe Santiago Arriola Iglesias" (Iquitos) with suspected malaria and 211 subjects were randomly selected during a national vigilance program through field search in rural communities located along the Nanay river. Thick smear was compared with semi-nested multiplex PCR result, which was used as 'gold standard'. *P. falciparum* will be analyzed for genes K13 and Pfmdr1 mutations (related to resistance to artesunate, quinine and mefloquine) and for *pfhrp2* and *pfhrp3* gene deletions (encoding HRP2 and HRP3 proteins used in rapid diagnostic tests).

Results: 57 patients attending to the hospital had diagnosis of malaria: 39 *P. vivax* (12.7%), 18 *P. falciparum (5.9%)*. 71 patients were diagnosed of malaria during active field search in rural communities: 68 *P. falciparum* (32.2%), 3 mixed infection by *P. falciparum* and *P. vivax* (1.4%). 361 patients had fever (69.7%), being *Plasmodium vivax* detected in 41 cases (11.4%) and *P. falciparum* in 33 cases (9.1%). Among the 151 afebrile patients (20.5%), *P. vivax* was detected in one case of mixed malaria and *P. falciparum* in 54 cases (33.8%). *P. vivax* was related with fever and symptoms in patients attending to the hospital (p<0,001 for both), whereas *P. falciparum* with afebrile population in rural communities (p<0,001). A past malaria episode was reported in 44 febrile patients (29.3%), and in 87 afebrile patients (94.6%) (p<0,001).

Conclusions:
High-density and asymptomatic *P. falciparum* parasitemias may complicate residual malaria elimination in rural communities. Symtomatic patients attendig to the hospital are affected by *P. Vivax*. Asymptomatic patients with subpatent parasitemia have been identified in different geographic areas, but the prevalence of such infections among febrile subjects is unclear. Describing the extent of the parasite reservoir is of importance.