

P1293 **Prevalence of imported malaria in Parma (Italy) during 2000-2017 and comparison of diagnostic tools**

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Background: Malaria is no longer endemic in Italy where it is the most commonly imported disease, with one of the highest rates among European non-endemic countries. Accurate identification of *Plasmodium* infections in non-endemic countries is important to administer a targeted therapy with a positive impact on patient health and management and allowing the prevention of the risk of re-introduction of endemic malaria in such countries. This study reports the prevalence of malaria in Parma, during 2000-2017 and the comparison of the diagnostic tools used.

Materials/methods: Blood samples from 1375 subjects attending at University Hospital of Parma during 2000-2017 from malaria endemic areas and with malaria specific signs/symptoms, were submitted to microscopy, immunochromatographic assay and a Real-time PCR specific for *P.falciparum* (*Pf*), *P.vivax* (*Pv*), *P.malariae* (*Pm*), *P.ovale curtisi* (*Poc*) and *P.ovale wallikeri* (*Pow*). Even if available, a Real-time PCR for *P.knowlesi* was not applied because no patients were natives or came from Southeast Asia.

Results: 340 samples were positive by microscopy: 283 *Pf*, 18 *Pv*, 20 *Po*, 15 *Plasmodium* species, 2 *Pf+Po*, 1 *Pv/Po*, 1 *Pm*. Plasmodial DNA was revealed in 349 samples: 287 *Pf*, 14 *Pv*, 29 *Poc*, 4 *Pow*, 4 *Pm*, and 11 mixed infections (5 *Pf+Po*, 4 *Pf+Pm*, 2 *Pf+Po+Pm*). The prevalence varies from 20% in 2000 to 25.3% in 2017-July with a peak of 37.5% in 2015.

Conclusions: This study reports that malaria cases in Parma increased from 2000 to 2017 as a result of the high number of "forced migrants" coming in recent years in addition to the travelers to tropics, migrants visiting friends/relatives in their origin country as previously observed. *P.falciparum* was the most frequently revealed species and 11 mixed infections were detected. Molecular methods were more sensitive and specific than microscopy, detecting additional malaria cases and mixed infections missed by microscopy, and correctly identifying all plasmodia species of medical interest, including *Poc* and *Pow* not identifiable by microscopy. This data stimulate the clinicians in non-endemic areas to suspect malaria and the parasitologists to always confirm the results of microscopy, even if the reference method, with molecular methods to avoid misdiagnosis.