

eP586

ePoster Viewing

Malaria

ANTIBODY RESPONSES OF GREEKS AND IMMIGRANTS RESIDING IN AREAS OF LOCAL MALARIA TRANSMISSION IN GREECE

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Objectives: Greece, a country declared malaria-free since 1974, has experienced an increase in imported and locally acquired *P. vivax* malaria cases in the past 5 years, partly due to the influx of immigrants from endemic areas of the Eastern Mediterranean and Asia. In the present study, Greeks and immigrants residing in areas of Greece with locally acquired malaria transmission were screened for antimalarial antibodies in order to determine the possible existence of seropositive and potentially asymptomatic *Plasmodium* carriers.

Methods: Serum specimens were collected from two population groups, patients (pilot study) and asymptomatic individuals (screening study), consisting of Greeks and immigrants. Sera from 50 healthy Greek blood donors were used as negative controls. All sera were tested using the Malaria-Ab ELISA (IBL International GMBH, Hamburg, Germany) detecting the presence of antibodies against recombinant CSP and MSP1 proteins of *P. vivax* and *P. falciparum*.

Results: In March 2012, sera were collected in Lakonia prefecture, South Peloponnese, from 38 patients (19 Greeks without travel history and 19 immigrants from Pakistan and Afghanistan) who had microscopically and molecularly documented *P. vivax* malaria 5-7 months earlier. Of those, 2/19 Greeks (10.5%) and 3/19 immigrants (15.7%) were positive for antimalarial antibodies. Consequently, 735 samples from 721 immigrants from malaria endemic countries (582 residing in Lakonia, 124 in East Attica and 15 in Karditsa) and 253 samples from 248 Greek residents of Lakonia were tested. Of the immigrants with known country of origin 627 (91.5%) came from Pakistan, 24 (3.5%) from India, 24 (3.5%) from Afghanistan, 3 (0.44 %) from Bangladesh, 2 (0.30 %) from Morocco and 5 (0.73%) from Romania. None of the 248 Greeks was found positive while 85/721 (11.78%), of immigrants were found positive.

Conclusions: A rapid decline of antibody levels was observed in both Greek and immigrant patients, 5-7 months after an acute malaria attack. This could be partly attributed to prompt diagnosis and treatment, resulting in malaria antigen clearance. Serological screening of the asymptomatic local and migrant population in Lakonia revealed a low percentage of seropositive immigrants and no seropositive Greeks. These results indicate that Greek residents in areas of autochthonous malaria transmission have not been repeatedly exposed to the parasite and are currently unlikely to serve as reservoir for the infection of local mosquitoes. Timely diagnosis and appropriate treatment of malaria patients, combined with active case detection in locals as well as immigrants, are necessary in order to prevent further transmission and the re-establishment of malaria in Greece.