

O511

Abstract (poster session)

**Performance of a new gelified nested-polymerase chain reaction (PCR) test for the diagnosis of imported malaria**

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**Objectives.** For years, reference laboratory diagnosis of malaria has been microscopic examination of thick and thin blood smears. However, blood smears are very difficult to read and requires highly experienced microscopists to make a correct diagnosis. PCR methods directed against the gene for small ribosomal subunit (rRNA 18S) can identify all the species of plasmodium with high sensitivity. Our study aims to evaluate the effectiveness of a qualitative PCR (Kit Malaria Gelificado, Biotools) in malaria diagnostic. **Methods.** Samples from patients with clinical suspicion of malaria remitted from the emergency department of our Hospital were studied. Samples were tested by thin and thick smear and in-house multiplex real-time PCR. In addition, Kit Malaria Gelificado (a PCR gelified method for qualitative determination of plasmodium species in clinical samples in two steps) was performed. Real-time PCR was considered as the gold standard. **Results.** A total of 46 blood samples corresponding to 46 patients were included. Sixteen samples were positive for *P. falciparum*, 1 for *P. malariae*, 1 for *P. vivax* and 1 for *P. ovale* for both PCR. Seven positive samples for real-time PCR were negative for Kit Malaria Gelificado. Twenty-two samples were negative for real-time PCR and Kit Malaria Gelificado. The overall sensitivity of Kit Malaria Gelificado was 73% (70% to diagnose *P. falciparum* and 100% to diagnose *P. malariae*, *P. vivax* and *P. ovale*). The specificity was 100%. The overall sensitivity of blood films was 62% (65% for *P. falciparum*, 100% for *P. ovale* and 0% for *P. malariae* and *P. vivax*). Specificity was 100%. **Conclusion.** Kit Malaria Gelificado is a rapid and simple gelified method “ready to use” and reduces handling time and contamination risk. Its performance was superior to microscopy and can be useful when real-time PCR is not available or to diagnose imported malaria, notably in travellers with no underwent correct prophylaxis or immigrants with semi-immunity to malaria and where smear blood films sensitivity may be compromised for low parasitemia.