O0720 Mefloquine, atovaquone/proguanil and artemether/lumefantrine in the treatment of non-complicated Plasmodium falciparum malaria in travellers

Milan Trojanek*1, Vyacheslav Grebenyuk1, Lenka Richterova2,3,4, Eva Nohynkova5, Ivana Zicklerova2, Jaroslav Hrabak6, Hana Rohacova7, Frantisek Stejskal1,5,8

1 Department of Infectious Diseases, 2nd Medical Faculty, Charles University, Prague, Czech Republic, 2 Department of Clinical Microbiology, Hospital Na Bulovce, Prague, Czech Republic, 3 Department of Infectious and Tropical Diseases, 1st Medical Faculty, Charles University, Prague, Czech Republic, 4 Department of Infectious Diseases, 3rd Medical Faculty, Charles University, Prague, Czech Republic, 5 Department of Immunology and Microbiology, 1st Medical Faculty, Charles University, Prague, Czech Republic, 6 Biomedical Center, Medical Faculty in Pilsen, Charles University, Pilsen, Czech Republic, 7 Department of Infectious, Parasitic and Tropical Diseases, Hospital Na Bulovce, Prague, Czech Republic, 8 Department of Infectious Diseases, Regional Hospital in Liberec, Liberec, Czech Republic

Background: The objective of this study was to compare the time required for complete clearance of initial parasitaemia in non-complicated cases of imported P. falciparum malaria treated with different antimalarials, which were used as preferred regimen at our centre: mefloquine (used in 2006-2013), atovaquone/proguanil (2014) or artemether/lumefantrine (since 2015).

Materials/methods: Retrospective study included adult patients hospitalized with imported non-complicated P. falciparum malaria with initial parasitaemia less than 5% at a referral centre for infectious diseases and travel medicine. Clinical and laboratory parameters, including time required for complete parasite clearance, were analysed retrospectively. Continuous variables are described as medians with interquartile ranges (IQR), Kruskal-Wallis test was used for the univariate analysis of continuous variables.

Results: Presented study included a total of 84 patients, 65 M and 19 F with age median 38 years (IQR 29-48), with non-complicated P. falciparum malaria. Twenty-seven patients (32.1%) were treated with mefloquine, 12 (14.3%) with atovaquone/proguanil and 45 (53.6%) with artemether/lumefantrine. The initial and maximal parasitaemia was 0.90% (IQR 0.11-1.41) and 0.93% (IQR 0.11-1.50) in mefloquine group; 0.08% (IQR 0.02-2.46) and 0.60% (IQR 0.02-2.49) in atovaquone/proguanil group; 0.26% (IQR 0.07-1.19) and 0.26% (0.08-1.78) in artemether/lumefantrine group (p=0.324 and p=0.330, respectively). Median time required for complete parasite clearance was 4 days (IQR 4-5 and IQR 3-5) in patients treated both with mefloquine or atovaquone/proguanil, and 2 days (IQR 2-3) in artemether/lumefantrine group, p<0.001. However, there were reported 5 cases of early recrudescence in patients adequately treated with artemether/lumefantrine.

Conclusions: Our study retrospectively compared mefloquine, atovaquone/proguanil and artemether/lumefantrine in the treatment of non-complicated tropical malaria. It is evident that treatment with artemether/lumefantrine leads to faster parasite clearance, however, it is associated with a potential risk of recrudescence after adequate treatment course, which may limit this antimalarial regimen.