Funders: Predict TB clinical trial- EDCTP2 programme

PA-807 WEST AFRICAN CONSORTIUM FOR CLINICAL RESEARCH ON EPIDEMIC PATHOGENS (WAC-CREP): SUB-REGIONAL COLLABORATIVE MODEL TO STRENGTHEN HEALTH SYSTEMS FOR EMERGING INFECTIOUS DISEASES (EIDS)

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The devastating impacts of the sub-regional Ebola Virus Disease (EVD) outbreak clearly demonstrated a significant need to foster collaboration, build human capacity, strengthen laboratory infrastructure, promote community participation in outbreak response, and formulate strategies to harmonize ethical and regulatory pathways to successfully implement clinical trials on vaccines, therapeutics and diagnostics. This sub-regional concept led to a gathering of scientific leaders from the highly impacted EVD countries in the Republic of Guinea to identify a regional approach as the most ideal model to promote complex multi-site cross-border clinical trials, share information on case management during outbreak response, conduct capacity building workshops on regulatory and ethical challenges during public health emergencies (PHEs), identify and strengthen core laboratory systems, share biological samples, and create suitable platforms to share research findings for the mutual benefits of the vulnerable citizens of the sub-region. Accordingly, the West African Consortium (WAC) for Clinical Research on Epidemic Pathogens (WAC-CREP) was borne out of this shared interest by researchers from Liberia, Guinea, Sierra Leone and later Mali and Cote D'Ivoire to advance regional preparedness for global health security by sharing regional research, best practices, and evidence to inform infectious disease policies.

To-date, the consortium has supported the launch of a sub-regional multi-country clinical trial for EVD vaccines, conducted five successful sub-regional scientific conferences and sub-regional training workshops, developed strategic plan to strengthen sub-regional health systems, conducted sub-regional technical and policy expert meeting on EVD survivors, recruited Ministers of Health (MoHs) to serve as Ambassadors, and collaborated on grants, among others. The success of this sub-regional collaborative model clearly demonstrate the benefits of regional collaboration to mitigate emerging infectious diseases (EIDs) of poverty, especially in low and middle-income countries (LMICs).

PA-810 ETHIOPIAN PLASMODIUM VIVAX HYPNOZOITES FORMATION DYNAMICS AND THEIR SUSCEPTIBILITY TO REFERENCE ANTIMALARIAL DRUGS

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Background One of the key obstacles to malaria elimination is largely attributed to Plasmodium vivax's ability to form resilient hypnozoites in the host liver that cause relapsing infections. As a result, interruption of P. vivax transmission is difficult. P. vivax transmission occurs in Duffy-positive individuals and have been mainly thought to be absent in Africa. However, increasing studies using molecular tools detected P. vivax among Duffy-negative individuals in various African countries. Studies on the African P. vivax has been severely limited because most of malaria control program focus mainly on falciparum malaria. In addition, there is a scarcity of laboratory infrastructures to overcome the biological obstacles posed by P. vivax.

Methods Herein, we established field transmission of Ethiopian P. vivax for routine sporozoite supply followed by liver stage infection in Mali leveraging the EDCTP funded HypnoBio - TMA2017CDF-1892 outcome.

Furthermore, we evaluated local P. vivax hypnozoites and schizonts susceptibilities to reference antimalarial drugs. The study enabled the assessment of local African P. vivax hypnozoite production dynamics.

Results Our data displayed the ability of the African P. vivax to produce hypnozoite forms ex-vivo at different rates per field isolate. We report that while tafenoquine (1µM) potently inhibited both hypnozoites and schizont forms; atovaquone (0.25µM) and the phosphatidylinositol-4-OH kinase (PI4K)-specific inhibitor KDU691 (0.5µM) showed no activity against hypnozoites forms. Unlike hypnozoites forms, P. vivax schizont stages were fully susceptible to both atovaquone (0.25µM) and the (PI4K)-specific inhibitor KDU691 (0.5µM).

Conclusion Together, the data revealed the importance of the local platform for further biological investigation and implementation of drug discovery program on the African P. vivax clinical isolates.

PA-811 HIGH MALARIA AND ARBOVIRUS IGM/AGNS1 SEROPOSITIVITY IN CHILDREN WITH ACUTE FEBRILE ILLNESS IN LIBREVILLE, THE CAPITAL CITY OF GABON

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Background Acute febrile illness (AFI) management represents a challenge in sub-Saharan Africa where appropriate tools for the screening are often lacking. The aim of this study was to determine the prevalence of single and co-infection of malaria and arbovirus in children with AFI in a malaria sentinel site, Gabon.

Methods From July to December 2022, patients with AFI and presenting at the malaria sentinel were screened for malaria and dengue (DENV), Chikungunya (CHIKV) and Zika (ZIKV). Malaria was diagnosed using microscopy, while arbovirus infections were investigated with RDT detecting specific IgM (CHIKV and DENV); NS1 antigen and IgM for ZIKA by. Haematological parameters were analysed.

Results A total of 524 acute febrile cases were included, their median age was 60 [24.0–132.0] months. The prevalence of malaria was 38.9% (n=199/524), P.falciparum was the only plasmodial species detected. Arbovirus RDT positivity rate