Detecting and treating children with lymphoma in Africa earlier to improve treatment outcomes

Ferraresso Marta

Presenter's Institution/Organisation
University of Cambridge

E-mail Addressmf542@cam.ac.uk

Abstract

Children that develop malaria in Sub-Saharan Africa are at a greater risk of developing a cancer of the immune system called endemic Burkitt Lymphoma. However, this cancer is often undiagnosed, mis-diagnosed or detected so late that treatment is not effective. The first sign of this cancer is a swelling of the jaw that is often mistaken for a tooth infection resulting in tooth extractions and visits to dentists and alternative healers such as with doctors rather than medical centres. As a result, many children diagnosed with Burkitt Lymphoma in Sub-Saharan Africa die with as few as 2 in every 10 children surviving this disease. It is therefore imperative that we find ways to diagnose it earlier, to educate the children and their carers, and therefore to put in place early treatment. To do this, we have established a collaboration between the Uganda Cancer Institute in Kampala, the place where Burkitt Lymphoma was first described, and the University of Cambridge. Over the past 2-years we have been working together to establish a biorepository and equip a lab so that we are now in a unique position to conduct the proposed research. Specifically, we will develop a cost-effective assay to screen the blood of children that attend malaria clinics in Uganda. The blood test will detect active infections with Epstein Barr Virus which is known to contribute to the development of this cancer, as well as look for pieces of genetic code that have been released from tumour cells if they are present. This will be conducted with a relatively new technology called MinION which allows sequencing of genetic material to take place in the field in low income settings. If we can identify children at risk and educate them we may be able bring more children to the clinic for treatment.