MONTHLY PUBLICATIONS DIGEST – SEPTEMBER 2014

Sebina I, Biraro IA, Dockrell HM, Elliott AM, Cose S. Circulating B-Lymphocytes as Potential Biomarkers of Tuberculosis Infection Activity. *PloS One*. **2014; 9(9): e106796.**

Accurate biomarkers of Mycobacterium tuberculosis infection activity would significantly improve early diagnosis, treatment and management of M. tuberculosis infection. We hypothesised that circulating B-lymphocytes may be useful biomarkers of tuberculosis (TB) infection status in highly TB-endemic settings. Ex-vivo and in-vitro mycobacteria-specific B-cell ELISPOT assays were used to examine the plasmablast (PB) and memory B-cell (MBC) responses in the peripheral blood of adult, healthy, community controls (n=151) and of active TB patients (n=48) living in Uganda. Frequencies of mycobacteria-specific PBs were markedly higher in active TB patients compared to healthy controls, and, conversely, MBCs were markedly higher in the healthy controls compared to active TB patients. In addition, the community controls with evidence of latent TB infection had higher peripheral blood PB and MBC responses than those without evidence of TB infection. These data demonstrate that peripheral blood B-cell responses are differentially modulated during latent and active M. tuberculosis infection, and suggest that the PB to MBC ratio may be a useful biomarker of TB infection activity.

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4156407/

Martin, F., Russell, S., & Seeley, J. (2014). Higher Quality of Life and Lower Depression for People on ART in Uganda as Compared to a Community Control Group. *PloS One*, *9*(8), e105154.

Provision of antiretroviral treatment (ART) to people living with HIV (PLWH) has increased globally. Research measuring whether ART restores subjective well-being to "normal" levels is lacking, particularly in resource limited settings. The study objectives are to compare quality of life and depression symptoms for PLWH on ART to a general community population and to explore factors to explain these differences, including socio-economic status and the impact of urban or rural residence. PLWH on ART (n = 263) were recruited from ART delivery sites and participants not on ART (n = 160) were recruited from communities in Wakiso District, Uganda. Participants were interviewed using the translated World Health Organisation Quality of Life brief measure, the Hopkins Symptom Checklist depression section, and questions about socio-economic status, residence as urban or rural and, for PLWH on ART, self-reported adherence and use of HIV counselling. Compared to the community sample and controlling for location of residence, PLWH on ART had significantly higher quality of life (QOL) for physical, psychological and environment domains, but not the social domain.

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4149377/

Waddell, K. M., Kagame, K., Ndamira, A., Twinamasiko, A., Picton, S. V., Simmons, I. G., Johnston, W. T. & Newton, R. 2014. Clinical features and survival among children with retinoblastoma in Uganda. *British Journal of Ophthalmology*, **bjophthalmol-2014-305564.**

AIM: To characterise the clinical features, treatment and outcome of children diagnosed with retinoblastoma in Uganda.

METHODS: The study comprised a 6-year nationwide enrolment with follow-up.
RESULTS: In total, 282 cases were enrolled, 26% (72) were bilateral; 6% were lost to follow-up. Almost all diagnoses in the first affected eye were International Classification

of Retinoblastoma group E or worse. Histology was available for 92%; of those, 45%, had extraocular tumour at diagnosis. Enucleation of the first eye was done for 271; 94 received radiotherapy to the socket and in the

last 2 years, 70 children received chemotherapy. At close of study, 139 children had died. Survival, as determined in a proportional hazards model adjusted for age, sex, laterality and treatment era (pre or post introduction of chemotherapy), varied by extent of the tumour ($p<0.001$); children with only intraocular involvement were 80% less likely to die (HR=0.21, 95% CI 0.12 to 0.35) compared with children with extraocular involvement.

CONCLUSIONS:

Diagnostic delay results in relatively high mortality among children with retinoblastoma in Uganda. There is an urgent need for more effective treatment modalities, particularly chemotherapy, and nationwide efforts to encourage earlier access to medical care.