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### Epidemiological aspects of tropical endemic limbo-conjunctivitis (TELC) at the general referral provincial hospital of Bukavu, Democratic Republic of Congo



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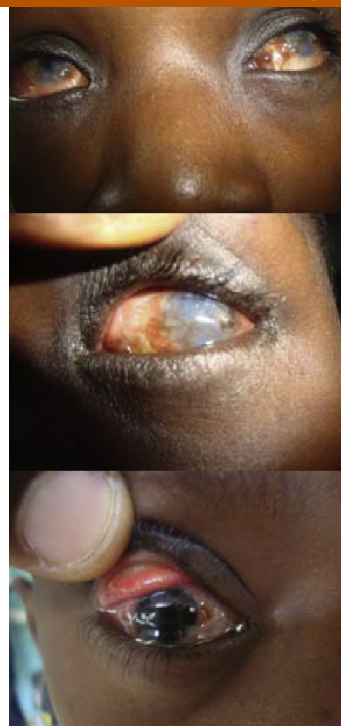
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**Background:** To determine the epidemiological aspects of tropical endemic limbo-conjunctivitis (telc) as well as the clinical characteristics in the children of 0-15 years old.

**Methods & Materials:** A retrospective and descriptive study was carried out by the service of Ophthalmology of the General Referral Provincial Hospital of Bukavu, South Kivu Province, in the East of the Democratic Republic of Congo. This may concern 172 children, from January 2007 to December 2011.

**Results:** On a total of 1168 children consulted, 172 had a diagnosis of telc 14.7% frequent. The median age of the patients with telc was 6 years. The age bracket of less than 5 years was touched with 40.1% of case. The male sex was represented by (57%) of children. The pruritis was the most frequent complaint with 97.1% followed-up with friction (94.8%) and brownish coloring (89.5%). The ocular attack was bilateral with (95.9%). The palpebral form was observed in 40.7% of the cases and the stage of evolution was marked respectively by stage II (37.8%) and I (30.8%), the stage IV was represented in 11% of the cases, a particularity for his stage.

**Conclusion:** This study, first of the kind in South-Kivu province, in the East of the Democratic Republic of Congo, related to the section from 0 to 15 years old. This study showed that men were the most reached about 57% against 43% for women. The palpebral form (40.7%) was the most frequent and the majority of children had stage II (37.8%) with a particularity for stage IV (11%), a first frequency higher found in Democratic Republic of Congo and in Africa. Telc constitutes in our areas a significant factor of blindness occurrence; it's an invalidating ocular disease if it is not treated on time.



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### Viral load and dendritic cells from vertically HIV-infected children and adolescents



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**Background:** Defects of plasmacytoid (pDC) and myeloid (mDC) dendritic cells (DC) number and function occur in vertical HIV infection. Monocyte-derived DC (MDDC) pulsed with inactivated virus may be a promising strategy for the therapeutic vaccines.

**Methods & Materials:** In this cross-sectional study, 38 HIV-1-infected patients with viral load (VL) <50 RNA copies/mL (aviremic patients, AP, median age: 13,6 years), 20 with VL >1,000 RNA copies/mL (viremic patients, VP, median age: 12,0 years), all under antiretroviral therapy (ART), and 30 healthy controls (median age: 15,9 years) had their DC characterized in peripheral blood mononuclear cells by flow cytometry with Anti-CD11c, Anti-CD14, Anti-BDCA-2 and Anti-HLA-DR antibodies. Seventeen patients and eight controls had their monocytes isolated by CD14+ magnetic beads, differentiated into MDDC using GM-CSF and IL-4 for six days, pulsed with aldrithiol-inactivated heterologous HIV-1 during two hours and incubated with GM-CSF, IL-4, IL-1 $\beta$ , TNF $\alpha$  and

IL-6 for 48 hours. CD40, CD80, CD83, CD86, DC-SIGN and HLA-DR expression was evaluated before and after the HIV-1-stimulation and IL-12 concentration were measured by ELISA. HIV-1-specific lymphoproliferation was analyzed by flow cytometry in 6-day cocultures of MDDC and lymphocytes. Nonparametric tests were employed ( $p < 0.05$ ).

**Results:** The %mDC wasn't different among groups (medians: 1.9% for AP, 2.45% for VP and 1.95% for controls; Kruskal-Wallis test,  $p = 0.071$ ) and there was a difference of %pDC between patients and controls (medians: 0.3% for AP, 0.1% for VP and 0.3% for controls; Kruskal-Wallis test,  $p = 0.038$ ). VL inversely correlated with %pDC (Spearman's  $\rho = -0.314$ ;  $p = 0.016$ ) and mDC inversely correlated with %CD4 (Spearman's  $\rho = -0.390$ ;  $p = 0.003$ ).

Before HIV stimulation, MDDC from VP had high level of CD83 expression than controls ( $p = 0.011$ ). After HIV stimulation, MDDC from all groups had higher HLA-DR, CD40, CD80, CD83 and CD86 and lower DC-SIGN expression. We didn't find a difference in IL-12 concentration among groups (medians: 2053.8pg/mL for AP, 2458.4pg/mL for VP and 1626.2pg/mL for controls; Kruskal-Wallis test,  $p = 0.539$ ). Higher HIV-specific proliferation was found in patients with AP in comparison to VP (medians: 12.4% for AP and 0.69% for VP; Mann-Whitney test,  $p = 0.006$ ).

**Conclusion:** Therefore, in children under ART, viremia was associated with lower %pDC, altered MDDC phenotype and reduced HIV-specific lymphoproliferation.

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#### Family stability as a predictor of treatment outcomes in HIV-infected adolescents



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**Background:** Adherence to anti-retroviral therapy (ART) is lower during adolescence than during any other time of life, and adolescents have worse immunological and virological outcomes than adults and children. As a result of the ART rollout in 2004, the current generation of vertically-infected South African adolescents is the first to survive beyond childhood. However, the rollout came too late for many of their parents, and as a result many are orphans. Anecdotal evidence supports the impression of frequent household disruptions and multiple consecutive caregivers for many of these patients. We aimed to investigate the impact of number of consecutive caregivers since start of ART, identity of the current caregiver and orphan status on virological outcomes and ART regimen.

**Methods & Materials:** We did a retrospective review of medical records in the Groote Schuur Hospital Adolescent HIV clinic in Cape Town, South Africa. We enrolled 203 subjects (54% male, 46% female) aged between 10 - 19 years, all vertically-infected with HIV and on ART > 1 year. Our primary outcomes were viral load (</>40) and ART regimen (1<sup>st</sup> 2<sup>nd</sup> or 3<sup>rd</sup> line). These were analysed in relation to number of consecutive caregivers since start of ART, identity of the current caregiver, and orphan status.

**Results:** Orphanhood stands at 51% in this setting, and orphans have the highest rate of caregiver turnover. However, orphanhood itself was not significantly associated with a detectable viral load or second-line ART regimen. A higher number of caregivers was associated with a detectable viral load in males ( $p = 0.05$ ), but not in females. Number of caregivers was not significantly associated with type of ART regimen. An aunt as caregiver was strongly associated with having a detectable viral load ( $p = 0.003$ ), but no other caregiver types yielded significant associations. Adolescents who stay in foster homes were significantly more likely to be on a first-line ART regimen ( $p = 0.03$ ), but other types of caregivers showed no association with treatment regimen.

**Conclusion:** Complex factors within the family impact on ART adherence during adolescence. We recommend support for interventions that assist the struggling extended family to care for HIV-infected adolescents on a long-term basis.

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#### Artemisinin-based combination therapy (ACT) and acceptability in Nigeria in the management of malaria in children aged 0-5 years



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**Background:** Artemisinin-based Combination Therapy (ACT) in Nigeria is influenced by the increasing prevalence of consistent resistant-malaria. However, there is limited acceptability by nursing mothers of children aged 0-5 years regarding ACT. This study actually assessed the management of malaria in children aged 0-5 years in Nigeria.

**Methods & Materials:** The study was a cross sectional in design involving the use of a multistage random sampling technique to select participants in their households. The questionnaire used for data collection was validated before its application. Therefore descriptive and Chi-square statistics were adopted in data analysis using SPSS data Package software.

**Results:** Participants' mean age was  $25 \pm 5.3$  years. Very few had higher education (4.9%). Some of the participants (30%) had never used ACT while their major source of acquiring ACT was through healthcare workers (26.0%)  $p < 0.05$ . equally, very few of the participants (10.0%) had ever used ACT drugs, while 70.0% are current users of Chloroquine which is the most popularly used (24.2%) among the malaria drugs. The level of education of the current users is inconsistent with their knowledge which were as low as secondary (22.5%) against higher institutions (10.7%)  $p < 0.05$ . Most (90.6%) obtained ACT drugs from public health facility where ACT are administered free of charge to children under five years. Though participants asserted that the ACT drugs are never expensive, but a few (27.0%) of the participants were of the opinion that ACT was very effective than Chloroquine while 80% of the users are in line with the same view. However, slightly more than half (59%) of the participants representing few (18.0%) of the total population agreed that the drugs were readily available. Interestingly most