

**Oral Session 6: Parasitology and Parasitic Infections****Date: Saturday, Nov 19, 2022 Time: 17:15-18:45****Venue: Meeting Rooms 302 & 303****ASSOCIATION OF ONCHOCERCIASIS NODULE PREVALENCE IN MOTHERS AND THE DEVELOPMENT OF EPILEPSY IN THEIR CHILDREN IN MAHENGE, AN ONCHOCERCIASIS-ENDEMIC AREA OF TANZANIA: A CASE-CONTROL STUDY**L.-J. Amaral<sup>1</sup>, D. Bhwana<sup>2</sup>, B. Mmbando<sup>2</sup>, R. Colebunders<sup>1</sup><sup>1</sup>University of Antwerp, Global Health Institute, Antwerp, Belgium<sup>2</sup>National Institute for Medical Research, Tanga Centre, Tanga, Tanzania

**Intro:** A child born from an *Onchocerca volvulus* infected mother is at increased risk of developing a high microfilarial load. High microfilarial loads are associated with a higher risk of developing onchocerciasis-associated epilepsy (OAE). Onchocerciasis is targeted for elimination through mass drug administration with ivermectin, which excludes pregnant women because of the potential teratogenic effect of ivermectin. Therefore, many pregnant women are *O. volvulus* infected during pregnancy in onchocerciasis-endemic areas. The consequence of such an infection on the risk of their children developing epilepsy has never been investigated.

**Methods:** A case-control study was conducted in eight rural villages in Mahenge, Tanzania, an onchocerciasis endemic area with a high prevalence of epilepsy. Participants were enrolled in September 2021 and March 2022. Cases were persons with epilepsy, with a mean age of 26.3 (SD 9.0) years. Of these, 48.6% reported a history of nodding seizures. Controls were age-matched healthy individuals. Available mothers of participants were examined for palpable onchocerciasis nodules and tested with Ov16 ELISA.

**Findings:** Seventy mothers of epilepsy cases and 49 of controls agreed to participate. Of these, 30 (42.8%) of mothers of cases and 19 (38.7%) of mothers of controls had palpable nodules ( $p$ -value = 0.80); 83.7%, 14.3% and 2% had one, two or three nodules, respectively. Ov16 positivity of the mothers of cases was 72.0% and of controls 75.8%. Using a logistic regression controlled for village and mothers' age, mothers of persons with epilepsy were more likely to present palpable nodules (OR = 2.65, 95% CI 1.06–7.11).

**Discussion:**

**Conclusion:** Persons with OAE generally live in households close to blackfly breeding sites. Their mothers are likely to have similar high exposures to blackflies, explaining the high prevalence of nodules. Whether an *O. volvulus* infection in pregnant women may lead to an increased risk of OAE needs further investigation.

<https://doi.org/10.1016/j.ijid.2023.04.050>**Oral Session 6: Parasitology and Parasitic Infections****Date: Saturday, Nov 19, 2022 Time: 17:15-18:45****Venue: Meeting Rooms 302 & 303****PREVALENCE OF ASYMPTOMATIC LEISHMANIA INFECTION IN PEOPLE LIVING WITH HIV AND PROGRESSION TO SYMPTOMATIC VISCERAL LEISHMANIASIS IN BIHAR, INDIA**R. Mahajan<sup>1</sup>, S. Owen<sup>2</sup>, S. Kumar<sup>3</sup>, S. Kazmi<sup>4</sup>, K. Pandey<sup>3</sup>, N. Verma<sup>3</sup>, V. Kumar<sup>1</sup>, A. Harshana<sup>1</sup>, E. Lasry<sup>5</sup>, L. Moretó-Planas<sup>5</sup>, E. Adams<sup>2</sup>, S. Burza<sup>1</sup><sup>1</sup>Medecins Sans Frontieres, Epidemiology, New Delhi, India<sup>2</sup>Liverpool School of Tropical Medicine, Tropical medicine, Liverpool, United Kingdom<sup>3</sup>Rajendra Memorial Research Institute of Medical Sciences, Virology, Bihar, India<sup>4</sup>Médecins Sans Frontières, Epidemiology, Bihar, India<sup>5</sup>Médecins Sans Frontières, Medical, Barcelona, Spain

**Intro:** People living with HIV (PLHIV) have an increased risk of developing visceral leishmaniasis (VL) and poor outcomes compared to HIV-negative individuals. Here, we aim to establish the prevalence and determinants of asymptomatic *Leishmania* infection (ALI) and the rate and risk factors for progression of ALI to VL in a cohort of PLHIV in Bihar, India.

**Methods:** We conducted a cross-sectional survey of PLHIV  $\geq 18$  years of age with no history or current diagnosis of VL or PKDL at anti-retroviral therapy centres within VL endemic districts of Bihar. ALI was defined as a positive rK39 ELISA, rK39 RDT, and/or qPCR. Additionally, the urinary *Leishmania* antigen ELISA was evaluated. The ALI and non-ALI cohorts were followed up every three months for 18 months in person and by telephone, respectively. Determinants for ALI were established using logistic regression model.

**Findings:** A total of 1,296 PLHIV enrolled in HIV care, 694 (53.6%) of whom were female and a median age of 39 years (IQR 33–46), were included in the analysis. The baseline prevalence of ALI was 7.4% ( $n=96$ ). All 96 individuals were positive by rK39 ELISA, while 0.5% ( $n=6$ ) and 0.4% ( $n=5$ ) were positive by qPCR and rK39 RDT, respectively. Risk factors for ALI were CD4 counts  $< 100$  (OR 3.1; 95%CI 1.2–7.6) and CD4 counts 100–199 (OR=2.1; 95% CI: 1.1–4.0) compared to CD4 counts  $\geq 300$ , and a household size  $\geq 5$  (OR=1.9; 95%CI: 1.1–3.1). Within the ALI cohort, four (3.7%) participants developed VL, compared to no progression in the non-ALI cohort. Mortality rates were higher in ALI compared to non-ALI (OR =2.7; 95% CI: 1.1–6.1).

**Conclusion:** The prevalence of ALI in PLHIV in VL endemic villages in Bihar was relatively high. However, the progression rate from ALI to VL in PLHIV was low. Patients with low CD4 counts and larger household size were at higher risk of ALI.

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