Overall, viral suppression was 79.4%, and 64.3% had controlled viral replication (VL <40). On first-line, viral suppression was 79.7% (1487) vs. 72.2%(83) on second-line (p=0,076). By ART duration, viral suppression was 83.4% (Month12), 85.8%(Month24), 74.9%(Month36) and 77.3% (≥Month48); p=0,0011. By age-range, viral suppression was 76.2% in children, 54.5% in adolescents, and 80.9% in adults (p<0,0001). By age and ART-regimen, viral suppression on first vs. second line was: children 76.5% vs. 60%; adolescents 51.7% vs. 65.2%; and adults 81.2% vs. 74.7%.

Conclusion About 80% of Cameroonian patients might be experiencing viral suppression, with a declining performance at adolescence and by 3 years of ART experience. Thus, meeting the viral suppression target by 2020 requires a closer VL monitoring strategy and an adapted adherence support mechanism for adolescents living with HIV in resource-limited settings sharing similar challenges.

PO 8408 DETECTION OF EXTENSIVELY DRUG-RESISTANT TUBERCULOSIS AMONG MULTIDRUG-RESISTANT *MYCOBACTERIUM TUBERCULOSIS* CLINICAL ISOLATES IN BOTSWANA

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Background The emergence and transmission of multidrug-resistant (MDR) and extensively drug-resistant (XDR) *Mycobacterium tuberculosis* (Mtb) strains is a serious threat to tuberculosis control in Botswana. Early detection of drug-resistant isolates is critical to ensure optimal treatment and thereby improve treatment outcomes. The objective of this study was to determine the extent of second-line drug resistance among drug-resistant Mtb-isolates from Botswana.

Methods A total of 60 drug-resistant Mtb isolates received at Botswana National Tuberculosis Reference Laboratory between 2012 and 2013 were analysed. DNA was extracted from BD Mycobacterial Growth Indicator Tubes (MGIT) using GenoLyse DNA isolation kit (Hain Lifescience). Spoligotyping was done using a commercially available spoligotyping kit (Isogen Life Science). The spoligotype patterns were compared with existing patterns in the SITVIT2 Web database. GenoType MTBDRs assay (Hain Lifescience) was used for second-line drug susceptibility testing. Fisher's exact test was used to test for association between drug resistance patterns and HIV status, lineage and geographical location.

Results Seventeen distinct spoligotype patterns were detected amongst the 60 drug-resistant isolates. The most predominant lineages were Euro-American (58.3%), East Asian (25%) and Indo-Oceanic (15%). Fifty (83.3%) were MDR, 7 (11.7%) were resistant to fluoroquinolones (Pre-XDR) whereas 3 (5%) were resistant to both fluoroquinolones and second-line injectable drugs (XDR). Drug resistance profiles were significantly associated with Mtb lineage (p<0.001). There was no association between drug resistance profile and HIV status (p=0.057) and geographical location (p=0.372).

Conclusion This study highlights the importance of including second-line drug susceptibility testing in a testing algorithm in Botswana. The detection of XDR isolates among MDR-TB isolates highlights the ongoing evolution of resistance and the need for strengthened treatment regimens to improve treatment outcomes and to prevent the spread of these highly resistant strains. Second-line testing will be essential if the 9 month MDR regimen is used in Botswana.

PO 8409 SERUM HYALURONIC ACID: A POTENTIAL DIAGNOSTIC MARKER FOR SCHISTOSOMAL PERIPORTAL FIBROSIS IN *SCHISTOSOMA MANSONI*-ENDEMIC AREAS

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Background *Schistosoma mansoni*-induced infection is one of the most prevalent infections worldwide with serious public health and economic impact. Morbidity and mortality associated with *S. mansoni* is mainly the result of periportal fibrosis (PPF) which can be diagnosed using ultrasonography. As ultrasound equipment is not readily available in *S. mansoni*-endemic areas, serum markers like hyaluronic acid (HA) have been used as an alternative means of diagnosing PPF.

Methods A cross-sectional study was conducted with the aim of determining the importance of serum HA as a marker for schistosomal PPF in in 55 patients found in *S. mansoni*-endemic areas in northeastern Ethiopia and 20 non-endemic controls. PPF was determined using portable ultrasound equipment and graded according to the 'Niamey protocol'. Serum HA concentration was determined using commercially available ELISA kit.

Results The mean concentration of HA in the sera of the cases was significantly higher than the controls (p<0.001). The concentration of HA also increased significantly as the pattern of PPF became severe while serum HA concentration positively correlated with PPF scores (ρ=0.6438, p<0.001). HA concentration of 27.9 µg/liter of serum differentiated moderate cases of PPF from advanced cases with a sensitivity, specificity, positive predictive value and negative predictive value of 85.71%, 75.61%, 60.5%, 93.9%, respectively (p<0.001). In conclusion, serum HA concentrations could be used as a potential marker for schistosomal PPF and to assess its severity in patients found in *S. mansoni*-endemic areas.

Conclusion Based on our results, serum HA concentrations could be used as an alternative, non-invasive potential marker for schistosomal PPF and to assess its severity in patients found in *S. mansoni*-endemic areas.