#925. Intraocular Pressure as a Non-Invasive Predictor for Increased Intracranial Pressure in Persons with Suspected or Confirmed Cryptococcal Meningitis
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Background:
Cryptococcal meningitis (CM) is associated with increased intracranial pressure (ICP). Guidelines recommend repeated daily therapeutic lumbar punctures (LP) when CSF opening pressure (OP) is >250mm H2O. Yet, manometers are unavailable in Africa. We assessed whether intraocular pressure (IOP) could be used as a non-invasive predictor to guide when large volume therapeutic LPs are necessary to relieve high ICP.

Methods:
56 consecutive HIV-infected Ugandans with suspected/known meningitis had LPs performed after informed consent. IOP was first measured in both eyes using a handheld tonometer (Accutome) while supine. Then LPs were performed with CSF OP measured via a manometer in the lateral decubitus position. The average IOP was used to assess for ICP correlation. The Spearman's rank correlation coefficient was used to assess correlation between the two methods and a receiveroperator characteristic (ROC) curve to describe the accuracy and compare the accuracy of IOP.

Results:
The median (IQR) CSF OP was 248(140, 358) mmH2O. The median (IQR) IOP was 33.5(24.5, 44.5) mmHg. There was moderate correlation, (R2=0.43;P<0.001) between IOP and CSF OP. Based on a receiver-operator characteristic (ROC) curve, above an IOP threshold of >25 mmHg, there was 86% sensitivity and 56% specificity for predicting a CSF opening pressure >250mm H2O (Odds Ratio=5.0, 95% CI: 1.4 to 18.3, P =.015), a threshold above which therapeutic LPs are recommended. The positive predictive (PPV) and negative predictive values (NPV) were 62.5% and 75% respectively (Cstatistic= 0.792, P<.001). The average IOP >25mmHg had better sensitivity than just using one eye >25mmHg (sensitivity 62%, specificity 62%). Similar performance was present for the initial diagnostic LP as well as any follow up LPs. At time of follow up therapeutic LPs, IOP>25mmHg had 92% sensitivity, 43% specificity, 60% PPV, and 86% NPV for CSF OP>250mm H2O.

Conclusion:
In resource-limited settings where manometers are unavailable, IOP may be a surrogate method to detect increased ICP with good sensitivity and negative predictive value. The mean IOP measured from both eyes gives a better correlation compared to one eye

reading. Further research in methods of ICP management in CM is needed.