

Category :**Brain: Neurologic disease**

**A65 - Determination of the average diameter of the optic nerve in bogota, colombia**

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## **Introduction:**

Noninvasive measurement of intracranial pressure (ICP) has become an important issue in neurocritical care. Ultrasound measures with transcranial doppler and optic nerve sheath diameter (ONSD) estimation can be made at the bedside [1]. We present preliminary results of a study in healthy volunteers (work team members and students) to find the ONSD average in non-hospitalized patients, which we defined as normal population, with the hypothesis that it will be different from the value reported in other populations [2]. This will be the first study in a healthy Colombian population and the first that measures the ONSD using a standardized technique with the enforcement of the CLOSED protocol and the adjustment with the transverse eyeball diameter (ED). [3] [4]

## **Methods:**

246 subjects are needed in this Metexploratory observational study with a cross-sectional design to estimate the ONSD average value measured according to the CLOSED protocol, the ratio of ONSD/ED, and determine if it is affected by variables such as sex, age, and comorbidities.

## **Results:**

Preliminary results of 86 subjects showed an ONSD average around  $0,35 \text{ cm} \pm 0,12 \text{ cm}$  with extreme data up to  $0,55 \text{ cm}$ . Ratio of ONSD/ED is around  $0,17 \text{ cm} \pm 0,03 \text{ cm}$ , including values of 0,31 as reported in other populations. [2] There is no effect of sex or comorbidities in our study. The few cases where we could not apply the CLOSED protocol were excluded from the analysis.

## **Conclusion:**

The first preliminary analysis showed that the ONSD average seems lower than we thought. Even if there are many patients with an expected value around  $0,5 \text{ cm}$ , our race-plural population may benefit from establishing a lower cut point to suspect a raised ICP. Nevertheless, this is a preliminary report, and ultimately measures must be done before concluding a cut-off.

## **References:**

- 1. Robba C et al. Echography and Doppler of the Brain. 1ed. 2021**
- 2. Kim DH et al. Sci Rep. 7(1):15906, 2017**
- 3. Aspide R et al. Neurocrit Care 32(1):327-332, 2020**
- 4. Du J et al. Neurocrit Care 32(2):478-485, 2020**