

The Correlation Of Optic Neural Sheath Diameter With Severity And Mortality In Patients With Non-Traumatic Intracranial Haemorrhage

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Purpose:

To study the optic neural sheath diameter in non-traumatic intracranial hemorrhage patient. We evaluated the correlation between Optic neural sheath Diameter (ONSD), haemorrhage volume, Glasgow Coma Scale, and Intracerebral haemorrhage Score (ICH score).

Materials and Method:

This was a prospective single centre, observational study carried out for 6 months from September 2017 till February 2018. Total of 50 patients were approached, out of which 5 were excluded due to ineligibility. ONSD was measured using standard technique as described in literature. The data was analysed using SPSS 24. Correlation between ONSD-haemorrhage volume, ONSD-GCS and ONSD-ICH Score were assessed using Pearson correlation.

Results:

The study included 45 patients (mean age: 59.9 ± 13.4 years old, 26(57.8%) Male), with the mean ONSD value $0.5919 \pm$ (SD) 0.046 cm. The statistical assessment yielded positive correlation between ONSD-Haemorrhage volume with an r value of 0.303 (95% CI 0.560,-0.597, p value 0.043) and correlation between ONSD-ICH revealed an r value of 0.372 (95% CI 0.543-0.590, p value 0.012). Moreover, a negative correlation were shown between ONSD-GCS an r value of -0.351 (95% CI 0.599-0.688, p value 0.018).

Conclusion:

As the haemorrhage volume increases the optic neural sheath diameter increases as well. Mortality risk (ICH Score) was also shown to increase with ONSD. Additionally, as ONSD increases, GCS scoring was shown to decrease. ONSD is a non-invasive method to evaluate severity and mortality risk in patients with non traumatic intracranial haemorrhage.