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**Scientific Abstract**

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**Correlation between Optic Nerve Sheath Diameter and Marshall CT Score with Glasgow Coma Scale In Traumatic Brain Injury**

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**Objective:**

In traumatic brain injury (TBI), non-contrast brain CT scan is able to detect an increase in intracranial pressure, which is crucial in patient's management. Optic nerve sheath diameter's (ONSD) measurement is a new method that is expected to assess an increase in intracranial pressure noninvasively. Marshall CT score is a valid instrument, a de facto standard to classify head injury patient which correlates with increased intracranial pressure. Therefore this research aims to see the correlation between ONSD and Marshall CT score with Glasgow Coma Scale (GCS).

**Methods & Materials:**

This was a retrospective, analytic observational with cross-sectional research's design taken from the patients' medical record admitted in Dr. Kariadi Hospital, Semarang, between March-August 2017. Measurement of ONSD and Marshall CT score were done by a radiologist. Rank Spearman's were used to assess the correlation between variables.

**Result:**

There were 34 subjects, the majority were male (67,6%), with the highest incidents in less than 30 years age (41,2%) and mostly caused by a traffic accident (76,4%). Statistical analysis showed a moderate negative degree correlation between ONSD and Marshall CT score with GCS.

**Conclusion:**

Enlargement of ONSD and higher Marshall CT score were correlated negatively related with the GCS in TBI patients with increased intracranial pressure.