

## Tranexamic Acid In Traumatic Brain Injury (TATBI)

Yap N<sup>1</sup>, Idris Z<sup>1</sup> Wong A<sup>2</sup>

<sup>1</sup>Neurosciences / Universiti Sains Malaysia/ Malaysia,

<sup>2</sup>Neurosurgery/ Sarawak General Hospital/ Malaysia

### Purpose

Traumatic brain injury (TBI) is invariably associated with intracranial bleed that worsens a patient's condition. Some surgeons advocate the usage of TXA in TBI while others do not. The aim of this study is to determine the effectiveness and safety of TXA in reducing the rate of clot expansion in TBI as compared to those without TXA and its result on mortality and outcome.

### Materials and Methods

This is a progressive observational cohort study. Patients 12 years of age and older with mild to severe TBI who had a brain computerized tomography done within eight hours of injury were eligible for enrollment. The primary outcome was clot expansion of an intracranial bleed seen on the first scan that had expanded by 25% or more on any dimension on the second scan. Good outcome is defined by GOSE of 5 and above.

### Results

A total of 344 patients were recruited in this study. 167 of them were administered with TXA and another 167 of the patients were not. Clot expansion was present in 12.7% of patients with TXA given and in 38.8% of patients without TXA. The difference was statistically significant ( $p < 0.001$ ). TXA showed significant association with good outcome in moderate and severe TBI ( $p = 0.042$ ) but not on mortality. There were one case of deep vein thrombosis in the TXA group.

### Conclusion

TXA reduces the rate of clot expansion in TBI without increasing the risk of thrombo-embolic event. It can improve outcome in certain types of TBI.