

Small Changes – Improving Compliance

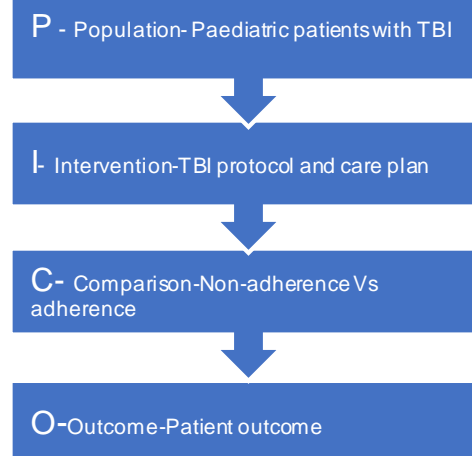
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Introduction and Aims

Traumatic brain injury (TBI) continues to be the leading cause of morbidity and mortality within the paediatric population. As a major trauma centre we frequently treat children with TBI, using standardised neuroprotective strategies to prevent secondary brain injury. Adherence to standardised guidelines, particularly in the first 72 hrs, reveals in some studies improved survival and discharge rates as shown in the Glasgow Outcome Scale (GOS) (Vavilala et al, 2014).

Methods

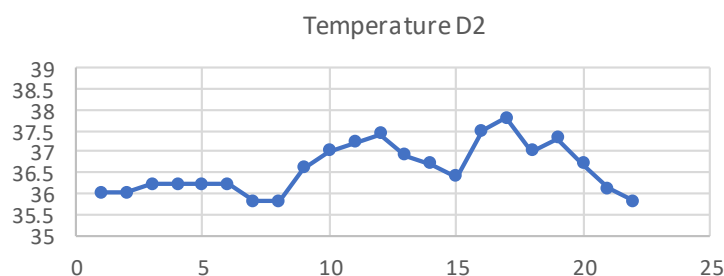
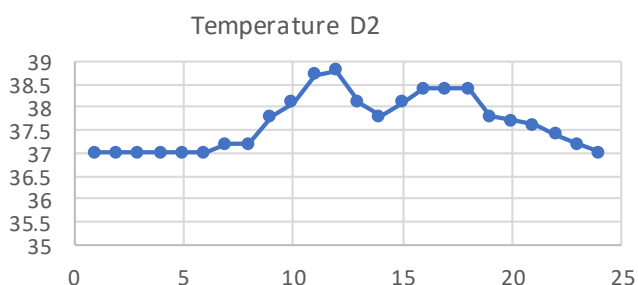
Demographic data and mechanism of injury was collected of all TBI patients requiring PICU admissions over the last 5 years. Subsequent comparisons of cardiovascular, respiratory and neurovascular observations aligned to both TBI protocol and care plan was performed. TBI training and education specifically surrounding the protocol was provided to team members to improve compliance and outcomes.



| Year | TBI patients | Mortality |
|------|--------------|-----------|
| 2017 | 12 | 3 |
| 2018 | 14 | 4 |
| 2019 | 14 | 2 |
| 2020 | 9 | 0 |
| 2021 | 6 | 0 |

Results

The initial data has revealed that there has been a decrease in the number of patients admitted to PICU over the last 2 years, speculatively this could be attributed to the Covid-19 pandemic and decreased socialisation. The adherence to TBI protocol has improved over last 5 years in the parameters of controlling ETCO₂, Temperature, CO₂, ICP and Cerebral perfusion pressure (CPP). We found temperature management with almost all patients in the study was the least controlled parameter overall with much more peaks and troughs in management.



Discussion and Conclusion

The reduction of PICU admissions with children experiencing TBI combined with junior nursing workforce led to the requirement of a robust approach to nursing care of these children. The utilisation of both a new nursing care plan and education programme has embedded the care of children requiring neuro-protection. Further evaluation will be required to ensure validity of the tool as numbers of patients increase.