

Abstract:

Background:

Comparison of levetiracetam as second line drug in place of fosphenytoin in status epilepticus among children.

Materials and methods:

This was a prospective randomised controlled study from a pediatric intensive care unit of a tertiary care institute. 100 children were recruited according to inclusion and exclusion criteria with 50 in fosphenytoin group and 50 in levetiracetam group. Two groups were compared with respect to clinical cessation of seizures, shock following AED, recurrence of seizures within 24 hours, need for mechanical ventilation, time to regain GCS 15/15, total hours of PICU stay and complications. Data were analysed using SPSS software. This study was undertaken after ethical approval and informed consent of caregivers.

Results:

Gender distribution revealed male female ratio of 1.45:1 (59 males versus 41 females). Seizures controlled at the end of administration of the drug were 65 (37 (74%) in fosphenytoin group and 28 (56%) in levetiracetam group) mean time for cessation of seizures were 11.86 minutes, when adverse events were analysed 25% of the children developed shock (fosphenytoin 14 (28%) and

levetiracetam 11(22%), seizure recurrence within 24 hours were found in 30 children(18 in fosphenytoin group and 12 in levetiracetam group), children requiring mechanical ventilation were 19 , median time to regain GCS of 15/15were 23.5 hours), median hours of PICU stay was 87 hours. Of 100 children, 81 children discharged and 17 children died. In this study 30 % of the mortality was due to acute meningoencephalitis. Two groups were analysed with respect to the above parameters and was not statistically significant.

Conclusion: levetiracetam was found to be as effective as fosphenytoin, with better tolerability as compared to fosphenytoin. Intravenous levetiracetam can be used as second line drug in status epilepticus among children after benzodiazepine failure.

Keyword: Status epilepticus, fosphenytoin levetiracetam