

ASSESSMENT OF MORTALITY BENEFIT WITH EARLY INITIATION OF ANTIEPILEPTIC DRUGS IN PATIENTS OF CARBAMATE POISONING HAVING NON CONVULSIVE STATUS EPILEPTICUS

General Medicine

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ABSTRACT

Assessment of mortality benefit with early initiation of antiepileptic drugs in patients of carbamate poisoning having non convulsive status epilepticus. **Aims And Objectives-** To study the mortality benefits of early initiation of antiepileptics in patients of carbamate poisoning having non convulsive status epilepticus. **Material And Methods-** This is a prospective study of 52 patients carried out at NCMCH, ISRANA from Feb 22 to June 23. All patients were a proven case of carbamate poisoning whose presenting symptoms were either of altered mental state or cholinergic excess who deteriorated by 2nd or 3rd day. One group received antiepileptic drugs. **Conclusion-** A significant decrease in mortality was reported in the group in whom Antiepileptics were initiated early in the course of treatment as compared to the group not receiving antiepileptics.

KEYWORDS

INTRODUCTION

Carbamate poisoning is one of the most common poisoning emergencies presenting to emergency room of any hospital. Such cases are reported even more commonly to our college as it is located in an agricultural rural land of Haryana. Because of low cost and easy availability of Organophosphates and carbamates poisons contribute to 60-70% of the 5,00,000 fatalities occurring due to self poisoning in India. Most common cause of OPCs and carbamates poisoning are pesticides. Carbamates are a class of insecticides structurally and mechanistically similar to organophosphates insecticides. Both of them, binds to an active site of acetylcholinesterase enzyme and inhibit its function by steric inhibition. This leads to excessive accumulation of Ach at the synapse and neuromuscular junction. Which leads to increased activity at the muscarinic and nicotinic receptors. Acetylcholine cross the blood brain barrier leads to seizures, respiratory depression and CNS depression.

In the earlier times, chief neurological features were seizures of tonic clonic type, the trends of which have shifted towards non convulsive seizures with the increasing use of synthetic insecticides.

Commonly used carbamate agents are aldicarb, carbofuran, carbaryl, ethionocarb, fenobucarb, oxamyl, methomyl, primicarb, propoxur and trimethacarb.

AIM AND OBJECTIVES

To study the mortality benefits of early initiation of antiepileptics in patients of carbamate poisoning having nonconvulsive status epilepticus.

MATERIAL AND METHODS

This is a prospective study which is conducted on 52 patients who presented to emergency room of NCMCH, Israna from February 2022 to June 2023 with signs of CNS toxicity due to carbamate poisoning. After administration of preliminary treatment as per the standard guidelines, antiepileptics were administered in those patients having non convulsive status epilepticus. Since EEG facility is not available in house, EEG for only few patients could be arranged.

Inclusion Criteria

Proven cases of carbamate/OPCs poisoning with signs of CNS depression (Likely due to non convulsive seizure activity) who eventually required ventilator support.

Exclusion Criteria

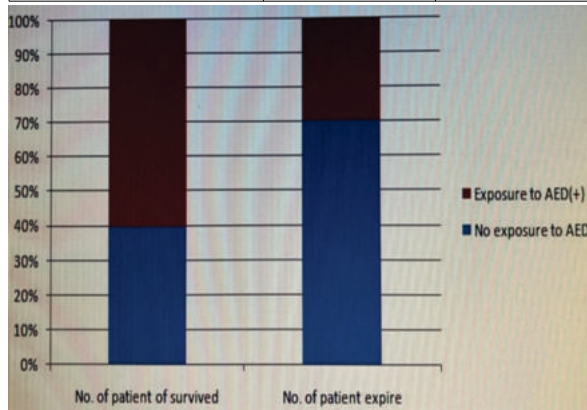
Patient having any past history of seizure disorder or any other central neurological disorder.

In this study we have divided patients in 2 groups. In one group we have started antiepileptic early in the course of treatment. In one group antiepileptic are not given

RESULTS

A total of 52 patients were included in the study. The group of patients not exposed to antiepileptic drugs had overall mortality of about 46.1% compared to the group exposed to antiepileptic drugs which had an average mortality of 19.2%. Chi square test used for comparison of the difference in mortality as a test of association between exposure to antiepileptic drugs and survival rate. Relative Risk turned out to be 1.4, odd ratio was 2.8 with a P-value of 0.04 (<0.005).

	No of patient of survived	No of patient expired
No exposure of AED	14	12
Exposure to AED (+)	21	5



DISCUSSION

- Agricultural exposure is the most common cause of OPC and carbamate poisoning. WHO classifies these poisonings as class I (extremely toxic) to class III (slightly hazardous). Common presenting symptoms viz acute muscarinic as well as nicotinic manifestation are generally the presenting symptoms. In earlier times, generally seizures of convulsive type were reported with such poisons, but these days due to the increasing use of synthetic insecticides, the trend has shifted towards non convulsive type of seizures. In our study patients, those ending up in a comatose state despite standard therapy, were considered as they might be cases of non convulsive status epilepticus. Electroencephalogram of such patients were performed which further confirmed our diagnosis. Hence, we revised our treatment plans by adding anti epileptic drugs to their regime.
- An improvement in survival rates was found for such patients which was proved to be significant by statistical analysis. Therefore, proven cases of carbamate poisoning, having signs of CNS depression (likely due to non convulsive status epilepticus) were found to have mortality benefits and overall improvement in discharge rates, with early introduction of antiepileptic drugs.



CONCLUSION

A significant decrease in mortality was reported in the group in whom Antiepileptics were initiated early in the course of treatment as compared to the group not receiving antiepileptics.

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