

# **ABSTRACT**

## **Back ground & objectives:**

OPC poisoning has high morbidity and mortality in India. The study is to assess the correlation of POP scale and serum cholinesterase level in predicting the clinical severity and outcome of organo phosphorous compound poisoning and to predict the need for ventilatory support , requirement of atropine , and duration of hospital stay

## **Methodology:**

The study was carried out in Coimbatore Medical College Hospital, the study period was of 12 months from July 2014 to June 2015. A total of 50 patients were studied. Patients with history of exposure to organophosphorous compounds with in previous 24 hours with characteristic clinical manifestations of organophosphorous compound poisoning were included. The exclusion criteria include who receive treatment with atropine before admission, patients with mixed poisoning with other substances and with history of other serious systemic illness.

## **Results:**

The study showed that serum pseudocholinesterase levels were decreased and POP scores was raised in severe poisoning. Mean cholinesterase activity in patients who survived was above 2604.5 U/L In the patients who expired the cholinesterase activity was around 313.78 U/L. This point out that enzyme levels is directly proportional to better prognosis. This study revealed a male preponderance of 68%, females accounting for 32% of cases. In this study 62% of patients reported with mild

grade of poisoning with a POP score less than 4. Only 2% of patients had a score more than 7 and had severe poisoning. In the present study, the mortality was 34% overall, with, 12% mortality in less than 25 years, 53% in 25-40 years ,35% in above 40 years. The mortality is higher in age groups 25-40 & above 40 years. In our study 38.4% of patients who consumed monocrotophos were died. 55% of patients were died who consumed Roger. Mortality is high in patients who consumed dangerous compounds like monocrotophos, Roger and Endosulphan. In our study the time interval between consumption of poison and hospital admission ranged from less than 1hour to more than 6 hours. There was less mortality in patients who came within 1 hour. Mortality was highest (88%) when patients were admitted after 3-6 hours following ingestion of pesticide.

### **Interpretation & Conclusion:**

Based on the study carried out, we concluded that there was good correlation between POP score and serum cholinesterase levels on admission and severity of poisoning.

Serum cholinesterase levels were significantly depressed in patients who were in severe poisoning. Low levels of cholinesterase enzyme and high POP score in early stages of poisoning indicates increased mortality. In early stages of poisoning determining serum cholinesterase activity forms a reliable diagnostic test. The correlation of POP scale and serum cholinesterase levels help in predicting the ventilatory support, atropine requirements and duration of hospital stay.

**KEY WORDS:** OPC POISONING, SERUM CHOLINESTERASE, PARADENIYA ORGANOPHOSPHORUS POISONING SCALE (POP)