

# BIOCHEMICAL ABNORMALITIES IN OPC POISONING AND ITS PROGNOSTIC SIGNIFICANCE

## **ABSTRACT:**

**BACKGROUND:** Organophosphorus insecticides are arguably one of the commonest causes of morbidity and mortality due to poisoning worldwide, especially in developing countries like India due to its easy availability. Though Serum cholinesterase can be a useful tool in the diagnosis of OP poisoning, its role in prognostication is very minimal. Our study was conducted to other biochemical abnormalities to predict the severity and prognosis in OP poisoning patients. **AIMS AND OBJECTIVES:**(1)To measure serum electrolytes, liver enzymes, amylase, CPK, CPK-MB, and Troponin I in acute organophosphorus poisoning (2) To analyse the correlation between these biochemical parameters and serum acetylcholinesterase levels (3) To analyse the validity of these biochemical parameters in prediction of severity and prognosis in op poisoning. **MATERIALS AND METHODS:**This study was conducted over a period of 1 year in Mahatma Gandhi Memorial Government Hospital attached to K.A.P.V Govt Medical College, Trichy wherein 50 OP poisoning patients were selected using inclusion and exclusion criteria and their blood samples were collected on admission and analysed for the above said biochemical parameters. **RESULTS:** 74% of the patients were male, and 62% of the patients fall in the age group of 20 to 30 years. Statistically significant elevation of ALT, CPK, CPK-MB and Troponin I were noted in the study group. A significant fall in serum potassium level in also noted. Most of the patients in the study had a cholinesterase level of 20% to 50%. **CONCLUSION:** AST, ALT, ALP, and Amylase increase in acute OP poisoning. Rise in CPK, CPK-MB, Troponin I and ALT indicate the severity of OP poisoning and is also statistically significant to predict the prognosis of the patient. Hypokalaemia and associated low cholinesterase levels indicate the requirement of ventilator support and also the poor prognosis of the patient. These findings can assist health professionals to better evaluate patient's prognosis and improve their treatment plan.

**KEYWORDS:** *Organophosphate (OP) poisoning, Aspartate transaminase (AST), Alanine transaminase (ALT), Alkaline phosphatase (ALP), Creatine phosphokinase (CPK, CPK-MB), Amylase, Troponin I, Serum Cholinesterase (S.AchE), Potassium.*