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## Correlation of pralidoxime blood level with its adverse effect in organophosphorus poisoning patients

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**Introduction:** Organophosphate (OP) poisoning is one of the major causes, among many other accidental or intentional poisoning, reported from developing countries like India. Pralidoxime (PAM) has been indicated as a specific antidote for OP poisoning. The blood level of PAM plays an important role in clinical efficacy and side effect.

**Objective:** The present study aimed to identify the correlation of blood level of PAM with its side-effect in OP poisoning patients.

**Methodology:** A prospective, observational study was carried in a total of 256 OP poisoning patients reported to emergency ward of a tertiary care teaching hospital admitted during 2009 to 2013. The patient's demographical, clinical characteristics and severity were assessed at admission. Patients were categorized into 4 different groups viz. patient's without PAM, intermittent dosing, 500mg/ hour, 1g/ hour group, based on the PAM dosage regimens received. Blood levels of PAM in patients were estimated by HPLC method and it was correlated with its side-effect.

**Results:** The results showed that majority of OP poisoned patients were in the age group of 21-30 years, and males predominated over females. Clinical Severity assessment of higher proportion of patients was moderate to high. Outcome analysis showed patients who got continuous infusion of pralidoxime had significantly improved recovery rate with least sequel and fatality rate ( $P < 0.01$ ). Blood levels of PAM was maintained uniformly at higher range ( $21.32 \pm 5.26$  mcg/dL for 500mg/hour;  $41.66 \pm 12.86$  µg/mL for 1g/hour infusion). Some patients belonging to the higher dosage regimen group showed common adverse effects like fluctuation in blood pressure, respiratory depression, especially in patients with lower creatinine clearance.

**Conclusion:** This study showed that high pralidoxime blood level is related to its side effect in OP poisoning patients, especially in those with low creatinine clearance. Hence, special monitoring may be needed for patients with renal dysfunction when PAM is administered at higher doses.

### Biography

Zoya Ahmed is a student of the Doctor of Pharmacy program in Manipal University. She is an active member of ISPOR- Karnataka chapter. She is skilled in patient counseling, medication history interview, analyzing laboratory data and reviewing the prescription, checking for drug interactions, medication error & ADR reporting, data mining and answering drug information queries and also patient counseling.

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