

**ELECTROCARDIOGRAPHIC AND ECHOCARDIOGRAPHIC ABNORMALITIES  
IN PATIENTS WITH ACUTE ORGANOPHOSPHATE POISONING: AN  
OBSERVATIONAL STUDY**

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Organophosphate poisoning (OP) accounts to 50% of all cases of acute poisoning admitted to hospitals in Sri Lanka. ECG changes and structural myocardial damage have been reported following OP poisoning. This study therefore, aims to document changes in ECG and echocardiography, in patients admitted to the Teaching Hospital, Peradeniya with acute OP poisoning.

The study was conducted over a period of eight months. All consecutive admissions following acute OP poisoning were recruited. The diagnosis of OP poisoning and assessment of its severity were based on recognized clinical findings.

Twenty nine patients, 21 males and eight females, were studied. The median age was 28 years (Range: 16 - 65). The median time lapse between poisoning and arrival at hospital was 120 minutes (Range: 0.25 to 3 hours). Ten (34.5%) patients were considered to be poisoned mild, 3 moderate (10.3%) and 16 (55.2%) severe. Twelve (41.4%) had tachycardia (heart rate more than 90/min) on admission and 2 (6.8 %) showed bradycardia (heart rate less than 60/min). Fourteen (48.3 %) were hypertensive (BP above 140/90 mmHg) on admission. Hypotension (BP less than 90/60 mmHg) was not observed. Of the severely poisoned, five (35.7 %) were hypertensive on admission. The median duration of hospital stay was 11 days (Range: 4 - 24 days). Fourteen (48.3%) needed ICU care for a median duration of 7.5 days (Range: 5 -15 days). Sixteen (55.2%) demonstrated ECG abnormalities appearing anytime from day 1 to day 15. Of these cases ten (62.5%) were severely poisoned. Eleven (68.7%) with ECG abnormalities needed ICU care. The commonest ECG abnormality was prolonged QTc interval (12 patients), observed clearly on day 5. Six (20.7%) had T inversions with 4 (66.7%) needing ICU care. Two (6.8%) showed echocardiographic abnormalities. One had basal septal hypokinesia and the other in the apex and the anterior wall with positive troponin T. Both received ICU care. Changes in the ECG and echocardiography were both transient. No deaths occurred during the study period.

This study shows that ECG abnormalities are common in OP poisoning. Patients needing ICU care showed both T inversions and echocardiographic abnormalities.