Poisoning

255. Blood Sugar Level, Its Relevance in OP Compound Poisoning - A Study

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Object: To predict the prognosis and mortality of organophosphorus compound poisoning based on random blood sugar level and to correlate it with pseudocholinesterase activity.

Introduction: Random blood sugar level is one of the factors which influences the severity of the organophosphorus compound poisoning. Very few studies have been conducted in the past.

Methodology: Total number of 100 patients with h/o consumption of OP compound were studied. Nature of the compound, time duration between consumption and admission with clinical features were noted. All patients were investigated for random blood sugar and pseudocholinesterase before any intervention. Patients with diabetes, alcohol consumption and drug abuse were excluded. Mortality and ventilator requirement were compared in euglycaemic (RBC < 200 mg%) and hyperglycaemic (RBS > 200 mg%) patients and correlated with pseudocholinesterase level (n > 2900).

Results: 41 patients had hyperglycemia. And of these 31 patients had decreased pseudocholinesterase level. 14 patients required ventilator support. All 15 patients who died had decreased pseudocholinesterase < 2900 U/L and of these 10 had hyperglycemia (P = < 0.02). All the patients included in the study had pulse < 100, blood pressure between 90-160/60-90 and were on mechanical ventilation. Mortality and ventilator requirement were correlated with euglycaemic (RBC < 200 mg%) and hyperglycaemic (RBS > 200 mg%) patients and correlated with pseudocholinesterase level (n > 2900).

Conclusion: Admission random blood sugar > 200 mg% pseudocholinesterase < 2900 are reliable parameters to predict mortality and ventilator requirement in organophosphorus compound poisoning. By χ² test drop in pseudocholinesterase level and increase in blood sugar level were associated for ventilator requirements, fasciculations, increase secretions but not for mortality, bladder incontinence and pinpoint pupil, which are related independently by standard error of difference between two proportions (p < 0.003). Stimulation of nicotinic receptors on autonomic ganglia causing increased catecholamine release was thought of as a possibility for increased RBS.

261. 5 Years of Unleaded Petrol and Its Effect on The Blood Lead Levels of Residents of Delhi

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Background: Introduction of unleaded petrol has led to reduction in lead levels in soil and water sources leading to lower lead levels in human populations in west. Effect of introduction of unleaded petrol on blood lead levels of Delhi residents is not known. Accepted blood lead levels by WHO are less than 10 μg/dl.

Aims: To measure blood lead levels of healthy young adults in Delhi in the year 2003-2004, after the introduction of unleaded petrol and to compare it with those measured in healthy young adults in 1997-1998 prior to introduction of unleaded petrol.

Methodology: Blood lead levels of sixty healthy adults (group A) were measured in the year 2003-2004 using atomic absorption spectrophotometry. These levels were compared with blood lead levels of seventy healthy adults (group B) of the year 1997-1998. Levels of males and females were also compared in each group.

Results: No significant difference was seen in age distribution of two groups. Average age in Group A was 24.67 ± 2.66 years while that in Group B was 24.47 ± 4.28 years. Blood lead levels of Group A were 2.387 ± 2.623 μg/dl. These were significantly lower than those of group B (16.06 ± 2.44 μg/dl). Blood lead levels of males in group A were significantly higher than (3.283 ± 2.14 μg/dl) those of females (1.387 ± 2.24 μg/dl). However no significant difference between blood lead levels of males (15.05 ± 2.24 μg/dl) and females (16.06 ± 2.64 μg/dl) in group B. No significant difference was seen in driving and non-driving populations in both the groups.

Conclusion: Though the anti snake venom is in use for so many years. For treating poisonous snake bite, there is no university accepted dosage for the management of different types of snake bite. 608 cases of snake bite poisoning were admitted in general hospital Pondicherry from January to December 2003. The type of snake bite poisoning were identified based on 1. The direct identification of the snake when brought by the attenders. 2. On the basis of signs and symptoms of envenomation. 3. Based on the results of the investigation.

Protocol based management of all the cases were performed. Out of 608 cases 58% of the cases were non-poisonous bites for which no ASV was given and the patients were observed for 24 hours. 22% of the cases were viperbites with predominant hematological systems. 12% of the case were krait and 8% were cobra bites. 4 cases of viperbites who were treated with adequate doses of ASV died as result of ARF. All the poisoning cobra bites were put on mechanical ventilation, when they developed respiratory failure.

Conclusions:
1. Patients admitted within 24 hours of bites showed better prognosis.
2. When the higher doses of ASV was more effective in saving the patients of selected cases.
3. Seasonal variation in the number of snake bite were observed.
4. Mortality rate was very low in this study due to early hospitalization and protocol based management including ventilatory support and dialysis whenever needed.
To Predict Prognosis and Mortality of Organophosphorus Compound Poisoning Based on Random Blood Sugar Level and to Co-relate it with Pseudocholinesterase Activity

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Results: Monocrotophos comprised 25% of the cases. The most common symptom was vomiting (75%). The most common sign was constricted pupil (75%). 41 patients had hyperglycemia. And of those 31 patients had decreased pseudocholinesterase level. 14 patients required ventilator support. All 15 patients who died had decreased pseudocholinesterase (< 2900 U/L) and of these 10 had hyperglycemia (P < 0.02).

Conclusion: Admission random blood sugar is a reliable parameter to predict mortality in organophosphorus compound poisoning. Stimulation of nicotinic receptors on autonomic ganglia causing increased catecholamine release was thought of as a possibility for increased RBS.

* Adjudged Best Papers and got an award of Rs. 1000/- each from Chairman Scientific Committee, Diamond APICON 2005.