

Effect of New Regimen of Organophosphorus (OP) and Carbamate Pesticide Poisoning Management

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Introduction:

- Organophosphorus compounds have been known since 1854 and these have been widely used in agriculture and even as domestic pesticide from their discovery in 1937.
- They are useful but most are inherently dangerous to human as well

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- **In acute exposure, the main mechanism of toxicity of OPs is irreversibly binding to the enzyme acetylcholine esterase and inhibiting the activity that result in prolonged effect of acetylcholine and consequently follows with acute muscarinic and nicotinic effects.**
- **In chronic and subchronic exposure, added to cholinesterase inhibition, induction of oxidative stresses has possibly the main mechanism of toxicity.**

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- The present day management of these cases is clear.
- The very well known therapy of OP poisoning is the intravenous administration of atropine and pralidoxime.
- The standard treatment comprising of gastric lavage with I/V atropine to regulate the vital parameter and to induce and maintenance of dryness of secretion, Pralidoxime will be infused (30mg/kg over 60 minutes followed by 8 mg/kg/hr) until recovery or death plus supportive and intensive care therapy will be decided by the discretion of the clinician.

Objectives:

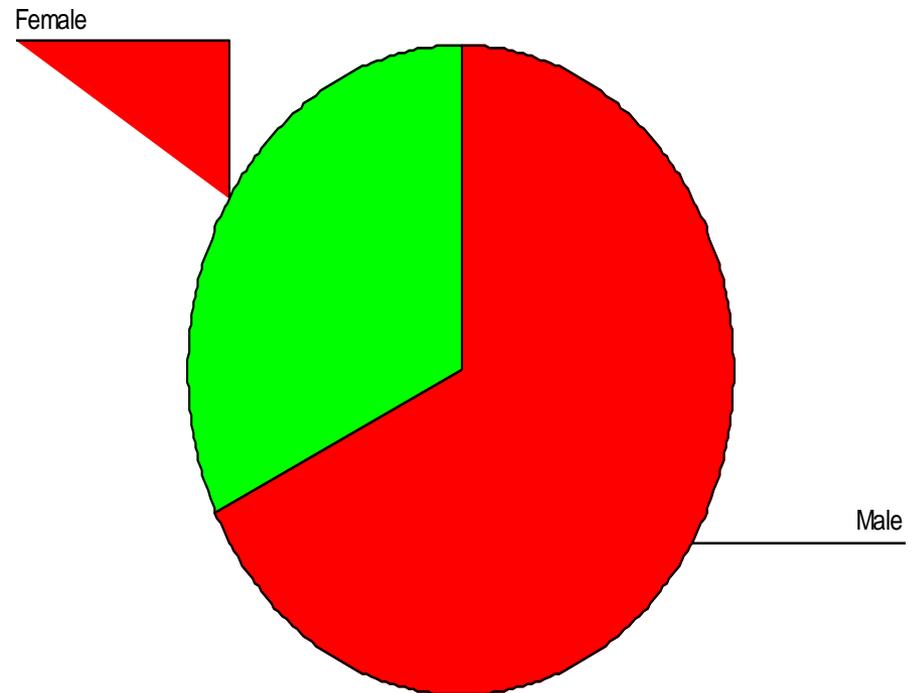
- **Evaluation of the efficacy of new regimen of Organophosphate and carbamate pesticide poisoning.**

Methods:

- This is a longitudinal observational study conducted in one medicine unit of Dhaka Medical College Hospital from April 2005 to April 2006.
- The patients were included whose age group was above 13 years and those arrived after 48 hours of ingestion were excluded.
- Consecutively 56 patients were enrolled during this periods.
- Data was collected in an individual case record form and was analyzed by SPSS-10.

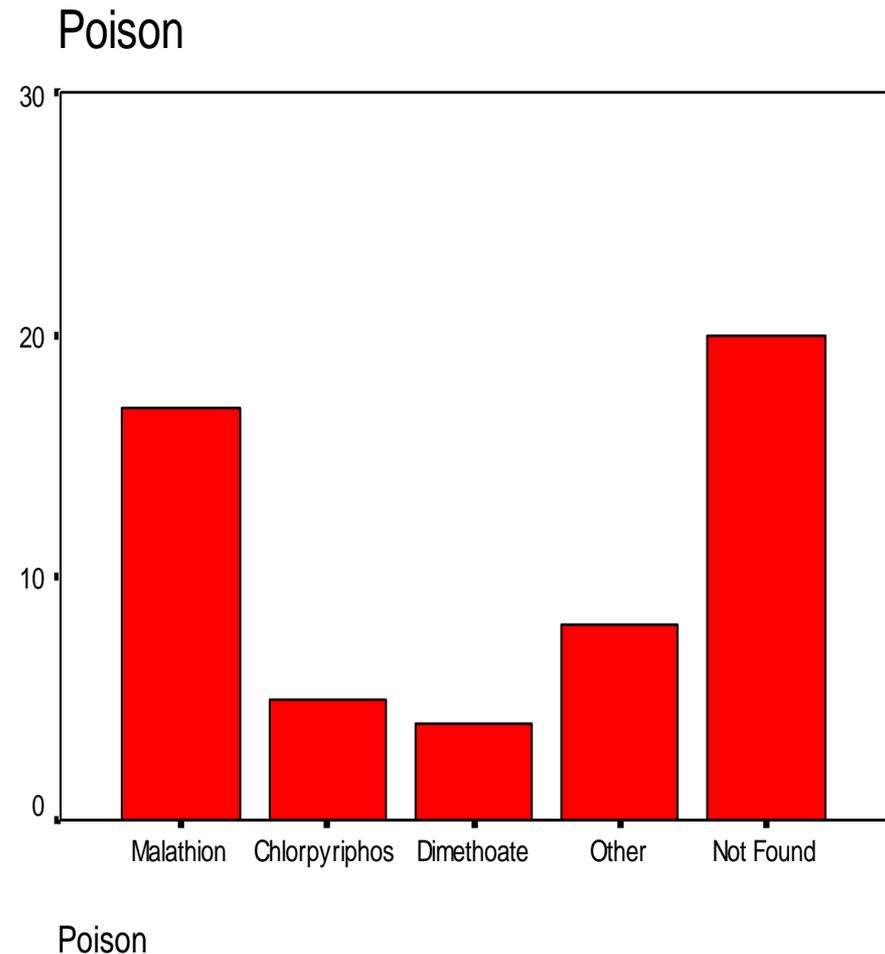
Results:

- The mean age of the patients was 32 years with 67.9% male



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- Brand of the poisons was identified in 60.71% cases amongst Malathion was predominant (30.4%).



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- Out of 56 patients, 12(21.4%) developed intermediate syndrome and 11(19.6%) cases required assisted ventilation but only 6(10.7%) could be provided assisted ventilation.
- Total 44 (78.6%) recovered, 10(17.9%) patients died, 1(1.8%) left hospital by their own.





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Poison * Outcome Crosstabulation

Count

		Outcome			Total
		Recovered	Absconded	Death	
Poison	Malathion	13	1	2	16
	Chlorpy riphos	4	0	1	5
	Dimethoate	4	0	0	4
	Other	4	0	4	8
	Not Found	18	0	2	20
Total		43	1	9	53

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Poison * Intermediate syndrom Crosstabulation

Count

		Intermediate syndrom		Total
		Yes	No	
Poison	Malathion	4	12	16
	Chlorpy riphos	1	4	5
	Dimethoate	1	3	4
	Other	2	6	8
	Not Found	3	17	20
Total		11	42	53

Conclusion:

- Most pesticide poisoning happens in young male by malathion.
- There is no definite guideline in the text for management of OP and Carbamate poisoning.
- A significant proportion of patients require assisted respiration which couldn't be provided in time in some occasion.
- Further improvement of outcome in the term of mortality might be achieved in future by resolving the constrains.

Thanks