

## **A RETROSPECTIVE STUDY OF 5 YEARS: ORGAN PHOSPHOROUS POISONING IN AHMEDABAD.**

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### ***Abstract:***

Poisons are known to mankind since time immemorial. Of the various substances used for suicide in India, Organ phosphorous compounds form a significant group as observed by much workers. The study was aimed to generate a baseline data on the epidemiological factors contributing to the incidence and mortality due to O.P. Poisoning. So as to highlight the problem this requires planned and concentrated effort in dealing with it on a broader horizon. Since prevention is the only logical approach there is an urgent need to take appropriate steps to prevent loss of lives. The analysis of the data revealed that 65 cases of O.P. poisoning brought to the mortuary of Smt. NHL MMC, Ahmedabad for medico-legal autopsy, during 5 years period i.e. 1995 to 1999. The age group ranged between 10 years to 40 years and above, with maximum incidence between 21-30 years and males outnumbering females. The main mode of poisoning was suicidal by ingestion.

### ***Key words:***

Organ phosphorous, Poisoning and Insecticides.

### ***Introduction:***

Toxicology is a basic science of poisons. PARACELUS over 400 years ago pointed out that poison is an agent that is capable of producing injury or death when ingested or absorbed. The EBERS PAPYRUS perhaps earliest medical record (1500), record 800 recipes and many contain recognized poisons, e.g. hemlock, aconite, opium, metal such as Cu, Pb etc. HIPPOCRATES while introducing rational medicine, about 400 BC, added number of poisons. THEOPHRASTUS (370-286 BC) recorded numerous poisonous plants in DE HISTORIA PLANTARUM. Romans too made considerable use of poisons. A competent and well respected physician MAIMONIDES (AD 1135-1204) was a profile writer who wrote Poisons and their antidotes. Death due to poisoning has been known since time immemorial and poisoning contributes to be a major problem all over the world although its type and associated morbidity and mortality vary from country to country or even place to place in the same country. Organ phosphorus compounds are extremely used as pesticides for soft bodied insects in agriculture. Commercially available common household insecticides are

Trade name	Chemical contents (%)	LD50(mg/Kg)	Fatal dose in 50 kg man
<b>ORGANOPHOSPHATES:</b>			
Tik-20(New)	Fenitrothion(2)	500	1200 c c
Dalf	Fenithion(2)	15	50 c c
Finit	Malatheaon(1)	1375	7000 c c
<b>CARBAMATES</b>			
Baygon, Hit	Propoxure(1)	95	4750 c c

### **Material and Method:**

The material for the present study were collected from all the cases showing confirmed O.P. Poisoning on chemical analysis of viscera in the forensic science laboratory which brought for medico-legal autopsy to the mortuary of Forensic Medicine Department, Smt.NHLMHC, Ahmedabad for 5 years.i.e.1995 to 1999. Individual victim's data was entered as P.M. No., deceased name, age, sex, address, marital status, occupation, type of poison consumed, mode of poisoning and time of consumption. All data has been taken in a prepared proforma and analysis made from the data analyzed in various tables.

### **Result:**

**Table-1 Annual O.P. deaths in comparison to total unnatural deaths-**

Year	Total Medico-legal autopsies	O.P. Poisoning cases(Percentage)
1995	759	06 (0.8%)
1996	900	16 (1.8%)
1997	904	15 (1.7%)
1998	894	15 (1.7%)
1999	935	13 (1.4%)
<b>Total</b>	<b>4392</b>	<b>65 (1.5%)</b>

--The present study reveals that out of a total 4392 medico-legal autopsies conducted during years 1995 to 1999.O.P. Poisoning was responsible for 65 (1.5%) of the unnatural deaths in Ahmedabad with highest incidence in year-1996.

**Table-2 Socio-demographic Profile-**

Age	Frequency n=65	Percentage %
Below 10 years	3	4.6
11 - 20 years	18	27.7
21 - 30 years	29	44.6
31 - 40 years & above	15	23.1
<b>Sex</b>		
Male	34	52.3
Female	31	47.7
<b>Marital status</b>		
Unmarried	37	56.9

Married	28	43.1
<b>Residential Area</b>		
Rural	34	52.3
Urban	31	47.7

--The poisoning was common in the age group of 21-30 years. Male outnumbered the female, the male: female ratio being approximately. Among the deceased 56.9% were married. The number of victims from the rural population was more than urban.

#### ***Time & Place of suicide-***

Place of suicide was home for 87.7% of victims with preferable time in between 12.01 to 18.00 hrs & in September month (18.5%).

#### ***Table-4 Mode of exposure & Route of exposure-***

Mode of exposure	Ingestion	Inhalation
Suicide	60	0
Homicide	3	0
Accidental	0	2
<b>Total</b>	<b>63</b>	<b>2</b>

--All who choose suicide they prefer ingestion but accidental prey were by inhalation

#### ***Table-6 Subgroup of all OP poisoning-***

Sub group	Male	Female	Total (%)
Dimethoate	3	6	9 (13.8)
Methyl Parathion	5	1	6 (9.2)
Pharate	0	3	3 (4.6)
Pyrethide	0	1	1 (1.5)
Monthio-monocrotopho	1	0	1 (1.5)
Malathione	8	9	17 (26.2)
Phosalone	1	1	2 (3.1)
Dichlorvas	2	3	5(7.7)
Fint malthion	2	0	2 (3.1)
Non Monthio-monocrotophos	10	6	16 (24.6)
Oxydimiton	0	1	1 91.5)
Quinalphos	2	0	2 (3.1)
<b>Total</b>	<b>34</b>	<b>31</b>	<b>65 (100)</b>

\*All homicidal deaths were due to Malthione compound of O.P. poisoning.

Two commonest subgroup used in suicide were Malathione (26.2%) & Non Monthio-monocrotophos (24.6%).

#### ***Table-7 Sex wise distribution of time of O.P. Poisoning-***

Time	Male	Female	Total
Day	20 (58.8%)	23 (74.2%)	43 (66.2%)
Night	14 (41.2%)	8 (25.8%)	22 (33.8%)
<b>Total</b>	<b>34</b>	<b>31</b>	<b>65</b>

\*Chi square =1.7, which insignificant at  $p > 0.5$

--It has been observed that day time was preferred by deceased but female (74.2%) prefer day compare to male (58.8%).

**Table -8 Sex wise distribution of time lag in bringing patient to hospital**

Time Lag	Male	Female	Total
0.00 to 4.00 hrs	30	24	54 (83.1%)
5.00 to 9.00 hrs	3	3	6 (9.2%)
10.00 to 14.00 hrs	1	4	5 (7.7%)

\*Chi square= 0.0137, which insignificant at  $p>0.5$

--Majority of poisoning cases were hospitalized before deaths. It has been observed that 30 males and 24 females' cases hospitalized within 0.00 to 4.00 hours of intake of poisons. The poisoning deaths could be related to the dose ingested as well as the time elapsed between ingestion and arrival at the hospital. (Table-8)

### **Discussion:**

The retrospective 5 years study showed 65 cases of O.P. Poisoning brought to the mortuary of F.M. dep't., Smt.NHLMHC,Ahmedabad. O.P. poisons is now rapidly becoming a very commonly used agent for self poisoning as revealed by the present study. The maximum incidences in the age group of 21-30 years noticed in our study are conformity with the result of Mehta et al <sup>(1)</sup>. The reasons for this trend may be that this age group is most susceptible associated with frustration, failure at school, unsuccessful in love affairs, conflicts with parents etc.It was observed inn the present study that 52.3 % victims from rural background and 47.7% victims from urban background. It is interesting to note that out of 31females, 58.1% were married and 41.9% were unmarried. Married females outnumbered unmarried female, may be due to social and financial stresses and devil of dowry causes the loss of patience. Married males (55.9 %) are more prone to suicide than unmarried males (44.1%). The factor responsible for the trend observed in our study may be due to early marriage in rural community along with its added familial responsibility social customs and limited resources. Suicide was the common mode of poisoning (93.3%). This endorses our views that the inability to cope up with the demand put forth by standard set by the materialistic modern society is the main factor responsible for fatal poisoning in this region. Different worker in this field have also found similar result in their studies <sup>(2, 3)</sup>. The initial explanation for increasing incidence was suggested to be easy availability and high lethality. However despite the restriction on sale and distribution of this agent, imposed by authorities has failed to reduce its use as suicidal agent.

### **Conclusion:**

This study has brought forth the following issues that there is a need:

- (01) This study shall form a basis to suggest need of toxicological analytical Center at a hospital.
- (02) For centralized facility to manage poisoning cases.
- (03) To evolved measure for checking the increasing incidence and mortality Due to O.P. Poisoning.
- (04) Psychologically counseling

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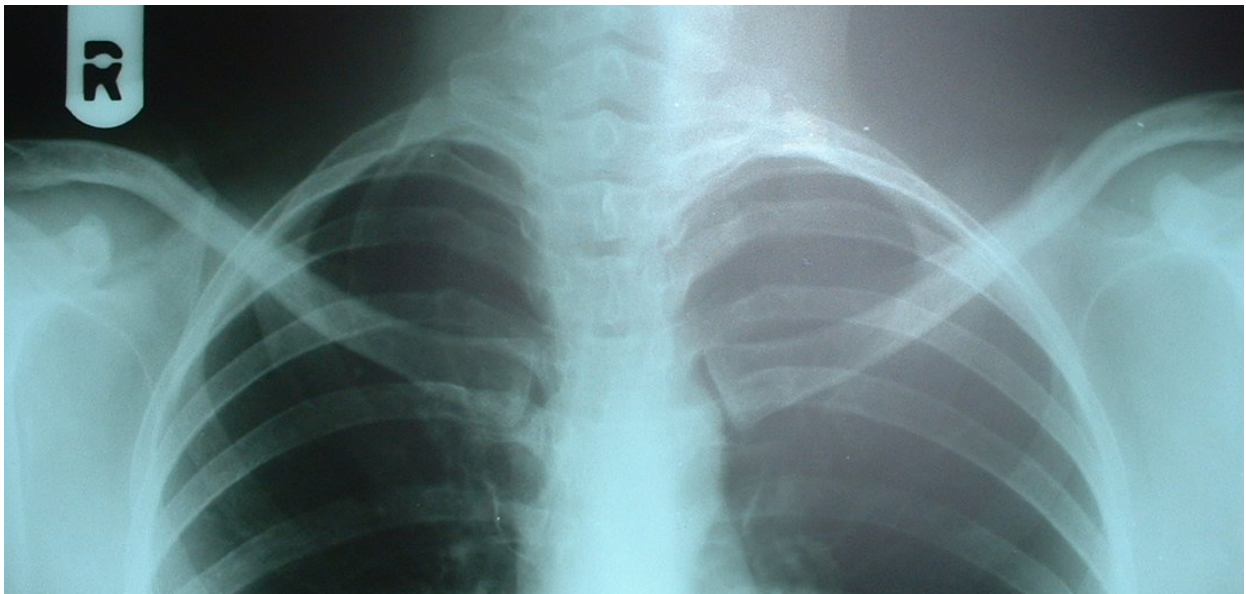
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## CERVICAL RIB

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### Introduction:



### Abstract:

Cervical rib is a supernumerary rib. It is one of the deformities of the musculoskeletal system. According to Terves and Keith, there is always a rudiment of a cervical rib in the fetus which usually disappears but in 1-2 %, it persists throughout life. Only a part of this percentage has symptoms. Genetic Factors may play a role.

Clinical important:

It causes pressure on brachial-plexus or subclavian artery.

These structures are entrapped between the cervical rib and scaleneus muscle. There is positive Adson's sign i.e. radial pulse is lost in the arm during abduction and external rotation of the shoulder.

There is compression of brachial plexus which causes weakness of muscles of the hand near base of the thumb. This is known as THORACIC OULET SYNDROME.