INTRODUCTION

A poison is a substance (solid, liquid or gaseous) which if introduced in living body, will produce ill health or death by its constitutional or local effect or both (Reddy, 1982).

There is really no demarcating level between a medicine and poison, for a medicine in a toxic dose is a poison and a poison in small dose may be a medicine. In law, the real difference between a medicine and a poison is the intent with which it is given. If the substance is given with the intention to save life, it is medicine, but if it is given with the intention to cause bodily harm, it is poison (Parikh, 1985).

Poisoning may be suicidal, homicidal, stupifying or accidental. All types of cases of poisoning are comparatively more common in India than in advanced countries because of ease with which poisonous chemicals are available, the carelessness with which they are stored. It is a sad fact that cases of poisoning of all types are increasing day by day. Accidental poisoning commonly takes place as a result of carelessness with which the poisonous and nonpoisonous materials are stored together.

Accidental poisoning is common in childhood. Children in the preschool age are particularly vulnerable
due to their intense desire to experiment with an explore
t heir environment. The present day households lurking
with toxic substances at every corner, such as caustics,
insecticides and medicines, provides an all to easy
setting for susiquisitiveness to end in disaster
(Srivastava et al, 1990).

Poisoning may be local (limited to eye, skin etc)
 systemic or both depending on dose, extent of absorption
 and distribution, intrinsic potency, and host suscepti-
 bility. Absorption and distribution are influenced by
 properties of chemical itself and of biological barrier
 through which it penetrates, local effects are due to non
 specific chemical reaction. Such as oxydation protein
 denaturation (Frederick et al, 1990).

CLASSIFICATION OF POISON

No classification of poisons is entirely
satisfactory, as many poisons fall into more than one
group. However, classification given below according to
the mode of action of poison, is the one most commonly
used. Accordingly poisons are classified in six groups
(Naik, 1986).

I. CORROSIVES

A corrosive poison is simply highly active
irritant and not only produce inflammation but also actual
 ulceration of tissues. They are :-
a. Strong acids: Sulphuric acid, nitric acid, hydrochloric acid.
b. Strong Alkalis: Caustic soda, caustic potash.

II. IRRITANTS

Irritant poisons produce symptoms of pain in the abdomen, vomiting and purging.

a. Inorganic: Arsenic, lead, copper, phosphorus, iodine etc.
b. Organic: C announces oil seeds, abrus precatorius etc.
c. Mechanical: Dried sponge, powdered glass etc.

III. NEUROTICS

Neurotics poisons act chiefly on nervous system though some neurotics have a local irritant action. They are:

a. Cerebral
   i) Somniferous - opium.
   ii) Inebriant - Alcohol, ether, chloroform, sedatives and hypnotics, fuels (petroleum, kerosene) and insecticides.
c. Peripheral poisons: Curare, conium.

IV. CARDIAC: Digitalis, oleander, tobacco etc.

V. ASPHYXIANTS: Coal gas, sewargas, methyl isocynide gas (Bhopal gas Tragedy), CO, CO₂, phosgene gas etc.
VI. MISCELLANEOUS

As name suggests poisons having different action are put together in this groups viz. analgesic and antipyretics, tranquilizers, antidepressants, stimulants etc.

Increasing incidence of pesticide poisoning is due to increasing uses of pesticides in agriculture and public health for vector control. Pesticides is a poison use to destroy pest of any sort (Park et al, 1986). The word pesticide is a general term that includes:

1. Insecticides:
   a. Organochlorine compounds: DDT, Ederin, B.H.C. etc.
   b. Organophosphorus compounds: Malathion, parathion, diazenon etc.
   c. Carbamates compounds: Carbaryl, propoxus (OMS 33) (Baygon).

2. Rodenticides: Aluminium phosphide and zinc phosphide etc.

3. Fumigants: Poisons substances contact with water or moisture, release gas, e.g. zinc phosphides, aluminium phosphide.

FACTORS MODIFYING THE ACTION OF POISONS

The factors which modify the action of poisons are dose, form of poison, method of administration and condition of body. As a general rule, the deleterious effect of a poison depend on its dose. If the quantity administered is small, there may be less toxic effects;
if the quantity administered is large, severe symptoms usually follows quickly resulting in serious toxic effects, including death. Gaseous or vapours acts more quickly than fluid poisons because they are absorbed immediately. Liquid poisons act more quickly than solid ones of which fine powders acts more quickly than course ones. The toxic effects of substances may vary greatly according their solubility or insolubility resulting from a chemical combination, action of poison is considerably altered when combined mechanically with inert substances for e.g. when alkaloids taken with animal charcoal fail to act. Poisons act slowly when the stomach is full with food.

The rapidity of action of poison also depends upon the mode in which it is introduced into the system. Thus a poison acts most rapidly when inhaled in a gaseous or vapours form or introduced into blood current by injection in vein, by subcutaneous or intra muscular injection (Modi, 1985; Lawson, 1986 and Parikh, 1986).

**MANAGEMENT OF POISONING**

In practice most emergency treatment of poisoning is symptomatic and not specific to poison. Success depends upon combination of speed and accuracy. The senses as well as on the poison, the amount taken, time which has since elapsed. In clinical practice, a selective antidote is available in less than 2% of episodes (Laurence et al., 1980).
1. Identification of poison: because some poisons have selective antagonist.

2. Removal of poisons by vomiting and gastric lavage. Generally it is advocated that gastric aspiration should be done within 4 hours of ingestion of drug, but up to 12 hours or longer with ingestion of salicylate or any drugs with anticholinergic action which remains longer in stomach. Emesis and lavage are contraindicated in corrosive poisons but decision can be influenced by amount taken and its concentration.

3. Prevention of further absorption of poison by specific antidote and universal antidote.

4. Forced diuresis.

5. Supportive management:
   a. Airway
   b. Maintain blood pressure.
   c. Care of back bladder and bowel.
   d. Nutrition.

6. Haemodialysis.