INTRODUCTION

MERCURY POISONING

Mercury Poisoning is a type of metal poisoning due to exposure to mercury. They may include muscle weakness, poor co-ordination numbness in hands and feet. The above mentioned symptoms are basic diseases caused due to mercury poisoning.

High level exposure to methylmercury is known as MINAMATA. disease. Methyl mercury exposure in children may result in acrodynia (pink disease) in which the skin becomes pink and peels. Long terms of complications may include kidney problems and decreased intelligence. The effects of longterm low dose methylmercury exposure are unclear.

CAUSES OF MERCURY POISONING

The consumption of fish is by far the most significant source of ingestion - related mercury exposure in humans, although plants and livestock also contain mercury due to bioconcentration of mercury from seawater, freshwater, marine and lacustrine sediments, soils and atmosphere and due to biomagnification by ingesting other mercury - containing organisms.

Exposure to mercury can occur from breathing contaminated air, from eating foods that have acquired mercury residue during processing, from exposure to mercury vapour in mercury amalgam dental restorations, and from improper use or disposal of mercury and mercury - containing objects, for example, after spills of elemental mercury or improper disposal of fluorescent lamps.

All of these, except elemental liquid mercury produce toxicity or death with less than a gram.

PREVENTION OF POISONING

Mercury poisoning can be prevented or minimized by eliminating or reducing exposure to mercury and mercury compounds. To that end, many government and private groups and organisations have made efforts to heavily regulate the use of mercury, or to issue advisories about its use. For eg. export from the European Union of mercury and some mercury compounds has been prohibited since 15 March 2010.

The United States Environmental Protections Agency (EPA) issued recommendations in 2004 regarding exposure to mercury in fish and shell fish. The EPA also developed the "Fish Kids' awareness campaign for children and young adults on account of greater impact of mercury exposure to the population. Another method of preventing mercury poisoning and minamata disease is cleaning of spilled mercury.

CASE STUDY

MINAMATA
(1st OCCURENCE)

Minamata disease was 1st discovered in Minamata city in Kumamoto prefecture, Japan in 1956. It was caused by the release of methylmercury in the industrial waste water from the chisso corporation's chemical factory, which continued from 1932 to 1968.

The highly toxic chemical bioaccumulated and biomagnified in shell fish and fish in the Minamata Bay. and the Shiranui Sea. which was eaten by the local population, resulted in mercury poisoning. While death continued for 36 years, the government and company did little to prevent the pollution. The animal effects were severe enough in cats that they came to be known as "dancing cat fever".

CONCLUSION

CHELATION THERAPY

chelation therapy for acute inorganic mercury poisoning can be done with DMSA, 2,3-dimercapto-1-propanesulfonic acid, D-penicillamine, dimercaprol (BAL). Only DMSA is FDA-approved for use in children for treating mercury poisoning. However studies found no clinical benefit. No chelator for methylmercury or ethylmercury is approved by the FDA; DMSA is most frequently used for severe methylmercury poisoning, as it is given orally.

Chelation therapy can be hazardous if administered incorrectly. In August 2005, an incorrect form of EDTA (edetate disodium) used for children's chelation therapy resulted in cardiac arrest.