Summary and Conclusion

Carbon monoxide is tasteless, odorless, colorless and non-irritating gas; it is the product of incomplete combustion of hydrocarbons.

Atmospheric CO is related to human civilization; consequently, its concentration varies markedly from east to west and from the south to north. Also, CO in the atmosphere varies greatly within different regions of the same country denoting uneven industrialization.

There are two main sources of CO, exogenous and endogenous. While the atmospheric CO is the principal cause of CO toxicity, the endogenous source is physiologically very important, and under certain conditions may even become pathological.

Carbon monoxide binds to Hb with an affinity > 200 times than O2 and causes a leftward shift in the O2 – Hb dissociation curve, decreasing O2 delivery to tissues resulting in tissue hypoxia. Besides hemoglobin, CO binds to many heme-containing proteins such as myoglobin, guanylyl cyclase, and cytochrome oxidase.

The heart, brain, and lungs require large continuous amounts of oxygen for normal function and are most susceptible to the effects of CO poisoning.

The clinical symptoms of CO poisoning are often non-specific and can mimic a variety of common disorders. The severity ranges from mild flu-like symptoms to coma and death. About 50% of exposed people may develop weakness, nausea, confusion, and shortness of breath. Less frequently, abdominal pain, visual changes, chest pain and loss of consciousness occur. Headache is one of the most common presenting features of CO poisoning: it occurs in 84% of the victims. Early cardiovascular effects of CO poisoning are manifested as a response to hypoxia. More significant exposures result in hypotension, dysrythmia,

ischemia, infarction, and, in extreme cases, cardiac arrest. Treatment of the CO-poisoned patient begins with supplement oxygen or hyperbaric oxygen.

This retrospective study was carried out at the Poisoning Control Center of Benha University Hospitals during the period from March 2007 to December 2009.The data were taken from the medical records of the patients.

The study attempted to recommend some preventive measures to help in minimizing the occurrence of carbon monoxide toxicity among people.

Analysis of data collected from poisoning control period from March 2007 to December 2009. it shows the personal , demographic , social aspect as " age , sex , residence , occupation " and medical aspect as "clinical manifestations , treatment and outcome " of the persons exposed to CO in Benha University Hospitals .

In this study, the total collected cased from 2007 to 2009 was 70 patients.

Females exceed males in this study as (55.7%) were females and (44.3%) were males.

The present study showed that, the highest group affected by CO poisoning was the group aged from 20-40 years with (58.6%) with mean age (28.2year).

The present study showed that (75.7%) patients were from urban areas and (24.3%) patients were from rural areas.

According to occupation, the most affected group was house wife (34.3%) then manual worker (20.0%), student (18.6%), civil employer (17.1%), farmer (10.0%).

According to seasonal distribution of cases, the current study revealed that the CO poisoning were predominant in the winter months with (58.6%), followed by autumn with (25.7%) then spring with (14.3%) while the lowest proportion of cases was in summer with (1.4%).

As regard the clinical manifestation, the available data include (78.6%) and not available data was (21.4%), and the most common manifestation was headache with (85.5%), nausea and vomiting with (78.2%), blurring of vision with (32.7%) and history of syncope with (30.9%).

As regard treatment, all patients receive normobaric oxygen (100.0%). while who receive oxygen,mannitol and dexamethasone was (74.3%) and who receive oxygen and mannitol only was (32.9%) and who receive oxygen and dexamethasone was (22.9%) . Also as regards the outcomes, (100.0%) were recovered completely.

As a result people must be educated and informed about the dangerous of CO toxicity. Also, must educate people about the clinical manifestations of CO toxicity. Not all CO cases from the community report to the health care facilities leading to underestimation of the problem size.

This study will help in developing interventions to prevent CO toxicity. This information can also be used to identify those population groups most in need of education regarding the prevention and treatment of CO toxicity.

Finally, the present study was an attempt to study CO toxicity in the Poisoning Control Center of Benha University Hospitals and hoped that this effort will stimulate further intensive work of medical and social value.