Carbon Monoxide Poisoning

Carbon Monoxide is a colourless odourless gas formed by incomplete combustion of carbon containing products e.g. diesel oils, petroleum products and domestic gas.

CO has 200 time higher affinity for HB than O2 and toxicity is caused by CO combining with Hb to reduce the O2 carrying capacity of the blood.

Acute Features

Headache, nausea, irritability, weakness and tachypnoea followed by dizziness, ataxia, impairment of consciousness and respiratory failure. Cerebral oedema and metabolic acidosis can occur in severe cases.

Neuropsychiatric features may occur later, more commonly in >40years, e.g. memory impairment, disorientation, Parkinsonism etc

Chronic features

Frequently undiagnosed as non-specific e.g. headache, nausea and flu-like symptoms. More common in winter as associated with faulty heaters in unventilated areas. Should be considered if other household members have similar symptoms

Management

Remove from exposure

Maintain a clear airway and adequate ventilation

Normal pulse oximetry does not exclude CO poisoning.

Give high flow O2 until venous gas taken.

12 lead ECG and monitor cardiac rhythym

If patient has been unconscious look for extrapyramidal features and retinal haemorrhages

Consider sodium bicarbonate if acidosis persists despite correction of hypoxia and adequate fluid resuscitation

1g mannitol IV over 20 minutes if cerebral oedema suspected

Levels of 30% indicates severe exposure however the link between carboxyhaemoglobin concentration and clinical outcome is weak

Contact NPIS (08448920111) or specialist burns unit for higher levels to discuss the need for hyperbaric oxygen treatment

Ref Toxbase
APLS 4th Edition
Dr Erin Dawson 7th November 2007