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Occupational hazards of toxic gas inhalation

Dewi Dian Sukmawati^{1*}

¹ Sanglah Hospital – Faculty of Medicine and Health Sciences Udayana University, Denpasar, Indonesia

* dewidian.sukmawati@yahoo.com

Abstract:

Many form of substance present in the workplace pose as potential occupational hazard. In order to attain the toxic effect, the substance compelled to come into contact or be absorbed into the body. The risk of exposure to toxic substance by inhalation is high when hazardous gases, vapor, dust or mist naturally present either as raw material, the products or byproducts of the manufacturing process. (1)

Carbon Monoxide, the most known toxic gas, universally present in household to industrial sites. The toxicity may acute and lethal with wide range manifestations from headache, dizziness, coma to fatal death outcome. Chronic exposure leads to neurotoxicity and may manifest in neuro-cognitive deficit.(2)

Hydrogen Sulfide, the byproduct of anaerobic metabolism of prokaryotic organism, present in sewage treatment including biogas used in household and water treatment at the fish farms. Acute exposure to H₂S both irritant and asphyxiant, the effect is varied and worsened in exposure with higher concentration. The clinical effect is ranging from minor mucocutaneous irritation to paralysis of central respiratory drive leading to death. Chronic low level exposure results as neurotoxicity is more prominent in children, Adults may exhibit cardiovascular symptoms, reproductive disorder and carcinogenic effect.(3)Other gasses: the Chlorine, phosgene, sulfur dioxide, hydrogen chloride, nitrogen dioxide, ozone, and ammonia are also among important irritant gases. The post exposure management is based on the severity, duration of exposure and clinical manifestations. The important approach in management of occupational hazards resulted in toxic gas inhalation is prevention and prompt treatment in cases of exposure.

Keywords: Occupational hazards, toxic gas, inhalation

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