[ID-P#149] Acute Inhalational Exposure and Pulmonary Toxicity Due to Chlorine Fumes Generated Following Mixing of Disinfectants – A Report of 2 Cases

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Background: Household and industrial disinfectants may contain various ingredients like Bleach, sodium hypochlorite, ammonia, and vinegar. Mixing cleaning agents has been a common practice among people due to the misconception that the new concoction has better disinfecting properties. When these are mixed improperly, they can react and produce toxic fumes, which when inhaled can result in toxicity. We report two cases of inhalational Chlorine gas exposure which was emitted upon mixing two household disinfectants.

Case Description: The first patient is a young female, known asthmatic, who mixed bleach and acid to clean her kitchen sink in a closed indoor setting. Fumes with pungent odour emitted after mixing the chemicals and she developed chest tightness and breathing difficulty. Upon arrival to the nearest community health centre, she had severe wheeze and hypoxemia. She was referred to Clinical Toxicology Unit of Christian Medical College, Vellore and was treated with bronchodilator nebulisations and steroids. The second patient is a middle-aged lady, who is a housekeeping staff. She was also exposed to pungent fumes when she inadvertently mixed bleachand acid while at her workplace and developed features of bronchospasm. She also required short term admission and treatment with bronchodilators. The chemicals involved and circumstances of exposure lead to the diagnosis of Chlorine gas exposure. Both the patients were followed up for long term respiratory sequelae and educated about safe used of household disinfectants.

Conclusions: This report sheds light on an often common, but overlooked and preventable inhalational toxic exposure which can be potentially life threatening. General public and high-risk occupational groups need to be educated about the hazards of mixing household disinfectants. Medical fraternity needs to be aware of this unique exposure so that prompt diagnosis and management is performed.