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Accidental exposure to ammonia and hydrogen sulfide

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Objective: Ammonia and hydrogen sulfide can be highly toxic and exposures can result in various complications, including death. This is the first documented report of ammonia and hydrogen sulfide poisoning in Bali.

Case Report: Four cases suffered accidental exposure to ammonia and hydrogen sulfide when they were cleaning waste from a shrimp breeding area without appropriate protective equipment. All victims were male in the second or third decades of life. The first three cases came to the emergency unit of Sanglah Hospital, with a chief complaint of weakness. All routine investigations including chest X ray, renal and liver function tests were normal. All of them showed improvement with supportive therapy. The other case was exposed to a massive concentration of ammonia and hydrogen sulfide for the longest duration and presented with loss of consciousness, metabolic acidosis and respiratory failure. Chest X ray revealed aspiration pneumonia and he has already suffered hypoxic brain injury as indicated by his CT-scan. During his hospitalization in ICU, he was treated with positive pressure ventilation, steroids, antibiotics intravenously and eye drops. Finally, the patient developed cardiorespiratory arrest on the fourth day, from which he could not be revived.

Conclusion: Acute poisoning to ammonia and hydrogen sulfide can be fatal if exposed in massive concentration and/ or for prolonged periods. Awareness regarding the safety measures and health hazards of occupational works should be promptly given to the sewage workers to prevent a similar occurrence in the future. Appropriate management must be taken to prevent fatalities case.