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Fatal Suicidal Toxicity by Sodium Azide: A Case Report

Gaurav Muvalia, Meera Ekka, Nayer Jamshed and Praveen Aggarwal
Department of Emergency Medicine,All India Institute of Medical Sciences,New Delhi

INTRODUCTION: Sodium azide is a rapidly acting, deadly chemical that exists as an odourless white solid.It has been widely used in laboratories as a preservative in reagents and as propellant in airbags. Suicidal poisoning with sodium azide is uncommon.

CASE REPORT: A nineteen-year-old female, Chemistry student presented to our Emergency Department after deliberate self ingestion of 50 gm of sodium azide from her laboratory with complain of nausea, vomiting and deep coma. On arrival, Airway was compromised with oxygen saturation of 80% in room air, heart rate-130/min, BP-100/80mmHg, She was intubated and mechanically ventilated. Investigations showed WBC count -24300/cumm, severe metabolic acidosis, and Lactate-22mmol/L.During treatment, she developed refractory hypotension and shock for which she received aggressive vasopressures and other supportive treatment. Unfortunately, she succumbed from this toxicity due to refractory metabolic acidosis and shock despite aggressive resuscitation. None of the exposed relatives and health care staff developed symptoms.

DISCUSSION: Sodium azide is a mitochondrial toxin, acts by inhibiting oxidative enzymes causing vasodilatation and profound shock.It is also explosive when comes in contact with metals and releases Hydrazoic acid gas. High dose of this toxic element immediately induces convulsions, unconsciousness, shock and respiratory failure leading eventually to death. Fatal dose is 10-20mg/Kg Soju Chang et al. found that all patients who developed hypotension after one hour of ingestion died in spite of all resuscitative efforts. Occasionally used in suicidal attempts because it is rapidly fatal, has no specific antidote, and can be purchased online.

CONCLUSION: Suicidal poisoning is very rare. Preventive measures include educating people at high risks and strict enforcement of laboratory regulations and limited access.