Oral Abstracts

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RELATIONSHIP BETWEEN ALCOHOL CO-INGESTION AND OUTCOME IN PROFENOFOSSELF-POISONING- A RETROSPECTIVE CASE SERIES

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Objective: Acute pesticide self-poisoning is a major public health problem in many developing countries. Ethanol is an important risk factor for pesticide poisoning and is commonly co-ingested during self-poisoning with pesticides. This study was performed to compare the clinical outcomes of acute poisoning with the organophosphorus (OP) insecticide profenofos, with or without alcohol co-ingestion.

Method: This is a retrospective case series of acute profenofos EC50 insecticide self-poisoning presenting between 01 January 2013 to 30 June 2016 to the specialized Toxicology unit, Teaching Hospital Peradeniya, and to Teaching Hospital Kurunegala, Sri Lanka. Demographic and clinical data were collected from acute profenofos poisoning along with a history of alcohol co-ingestion.

Results: A total of 255 patients with acute OP insecticide poisoning presented over 3.5 years to these two hospitals. From this cohort, 163(64%) patients had ingested profenofos [median age 36, (IQR 26-48)] of whom a quarter had co-ingested alcohol (n=41/163, 25%). Males made up the majority of profenofos poisoning cases (125/163, 77%) and all who had co-ingested alcohol (41/41 vs 84/122, p=0.0001, X^2=15.76). Cases who co-ingested alcohol were older [median 48 (IQR 35-59) years] than for those who did not [36 (24-50) years]. More patients with co-ingestions required intubation (8/41, 20%) than those who did not(10/122, 8%, p=0.034, X^2=4.48). Patients who co-ingested profenofos and alcohol had a longer hospital stay (median 3.9 (8.6 to 2.7) vs 3.2(4.7 to 1.8) days and more often died (7/41 [17.1%] vs 14/122 [11.5%], p=0.36, X^2=0.85) than those who did not drink alcohol. Multi-logistic regression showed an increased risk of death with male sex (odds ratio [OR] 5.43 [95% CI 0.70-42.38]), age (OR 9.35 [95%CI 2.06 - 42.35] for age >36 years compared to 36 years or less), and alcohol co-ingestion (OR 2.31 [95%CI 0.82-6.52]).

Conclusion: Alcohol co-ingestion, as well as male sex and older age, is independently associated with increased severity and worse hospital outcome in patients self-poisoned with agricultural profenofos insecticide. This may be due to larger ingestions of pesticide by intoxicated patients compared to sober patients, as was previously noted for dimethoate, or due to an interaction of profenofos with ethanol. These postulates need to be evaluated in a prospective cohort. Measurement of blood profenofos concentration on admission to hospital should distinguish between these two possibilities. Efforts to reduce deaths from profenofosself-poisoning may benefit from efforts to reduce alcohol consumption.