PREVENTING SECONDARY CONTAMINATION OF MEDICAL STAFF FROM POISONING PATIENTS

Takama T.[1]; Watanabe S.[1]; Otubo H.[1]; Nozawa H.[2]; Mayumi T.[1]

[1]*Department of Emergency Medicine, University of Occupational and Environmental Health*

[2]*Department* ***of Work Systems and Health*** *Institute of Industrial Ecological Sciences University of Occupational and Environmental Health*

Objectives: Chemical suicide involving agents such as hydrogen sulfide, arsenic, and organophosphates is one of leading methods of suicide in Asia, including Japan. Such contamination carries a risk of serious damage to emergency department staff. We report a case of secondary contamination of medical staff from poisoning patients, survey their health damage and discus about the prevention of secondary contamination

Case: A 54-year-old woman with depression was brought into the Emergency room(ER) after organophosphorus pesticide ingestion (Malathion) with disturbance of consciousness, miosis, hyper salivation, and hypoxemia. We decided to administer atropine and pralidoxime (PAM) and performed tracheal intubation, gastric tube insertion, and activated charcoal administration in ER and admitted her 3hour later. After insertion of the gastric tube, a penetrating odor filled the ER and continued in hospital room. Many ER nurses and ward nurses reported headache, nausea, eye pain, and sore throat, despite wearing surgical goggles and masks. We attributed these symptoms to volatile gas from the organophosphate itself or to xylene and ethyl benzene contained in Malathion.

We subsequently wore gas masks with face pieces and surgical gowns while treating the patient. Closed drainage system was installed to the gastric tube and ventilation device was set up in hospital room. We also measured organic solvent levels using gas detector tubes immediately. The levels of organic solvents were within the safe administrative control range in hospital room.

Method: A questionnaire survey was given to 36 ER and ward nurses who contact this patient within 24 hours from the arrival to investigate their health damage from secondary contamination.

Result: The valid response rate was 100%. The results showed that 28 nurses (78%) had healthy damage. The most frequent symptom was burning and itchy eyes (54%).Prolonged symptoms tended to have a higher proportion in ER nurses and 3 ER nurses needed medical treatment. After safety measures above were confirmed, no casualty occurred.

Conclusion: It was assumed that ER nurses were exposed to higher level of volatile gas from the organophosphate itself and xylene and ethyl benzene than ward nurses. To prevent secondary contamination from poisoning patients, proper precautions and surveillance from early phase are necessary.