OP – 43

Chemical exposed patient visits to a Bangkok hospital in an industrial area in Thailand from 2011 to 2017

Booranit Chua-in[1,2,3], Summon Chomchai[1,2], Thanjira Jiranantakan[1,2]

[1]*Department of Preventive and Social Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University*

[2]*Siriraj Poison Control Center, Siriraj Hospital*

[3]*Bangkok Hospital, Thailand*

Objective: To review chemical exposed patients who visited Bangkok Hospital in Rayong Province from 1st January 2011 to 31st July 2017.

Methods: This is a retrospective review of chemical exposed patients who visited Bangkok Hospital in Rayong Province from 1st January 2011 to 31st July 2017. Case identification was achieved by electronic searching with the keywords "chemical burn, chemical contact, chemical conjunctivitis, chemical ingestion and inhalation injury" as well as hand searching through paper based records. Data abstraction included date of presentation, patients' characteristics, details of incidents and scenes, types of chemicals, personal protective equipment (PPE), affected parts clinical manifestations, first aid, decontamination, emergency and supportive measures, investigations, specific treatments and final outcomes.

Results: There were 153 cases of chemical exposure reported during the study period. The mean age was 33.4 years (minimum 1, maximum 73, SD 10.0). Most patients were Thai (99.4%) and male (88.9%). Most of the incidents occurred at the workplace (90.9%), and were due to accidents (96.1%). The routes of exposure included skin contact (50.4%), inhalation (9.8%), ingestion (7.8%) and eye contact (7.2%). Some patients experienced multiple routes of exposure (24.8%). The chemicals responsible for the injuries included solvents (52.9%), corrosive agents (27.7%), pesticides (5.8%), simple asphyxiants (4.5%), metals (1.9%), cellular asphyxiants (0.6%) and unknown (5.2%). Only eight cases (5.2%) used PPE. Twenty seven cases (17.7%) received first aid at the scene. Most patients presented to the emergency room (99.4%). All cases received emergency and supportive care but none received a specific antidote. Decontamination including eye irrigation, wound irrigation and GI decontamination, were performed. Forty-four cases were admitted to the hospital (28.8%). Some 97.4 percent of cases recovered (2.6% mortality ratio). All four fatalities resulted from a gas explosion at work.

Conclusion: This study describes the pattern of chemical exposed patients who visited a private hospital located in an industrial area of Thailand. Most incidents occured at the workplace and as accidents. The majority of cases did not use appropriate PPE and did not receive first aid at the scene. Chemical exposure does not affect only workers' health but national productivity. It is hence recommended that we need to promote workplace safety in order to improve case prevention, enhance appropriate management at scene and to minimize morbidity and mortality.