

HCFC-123 INDUCED TOXIC HEPATITIS AND DEATH AT A KOREAN FIRE EXTINGUISHER MANUFACTURING FACILITY: A CASE SERIES

Jihye Lee and **Mu Young Shin**

Occupational Safety and Health Research Institute, South Korea

Exposure to sustained high concentrations of 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123) is known to be hepatotoxic. We report two simultaneous cases of toxic hepatitis related to exposure to HCFC-123, a common refrigerant, at a Korean fire extinguisher manufacturing facility. Patients A and B were men aged 22 and 21 years, respectively, with no notable medical histories. They had recently started working for the same manufacturer of fire extinguishers. In the third week of their employment, they visited the emergency center of a general hospital due to fever and general weakness. At the time of their visit, they were suspected of having hepatitis due to elevated levels of liver enzymes. However, as their condition did not improve, they were transferred to a tertiary hospital. After conservative treatment, one patient improved, but the other died from acute hepatic failure. Assessment of the work environment showed that the short-term exposure levels of HCFC-123 for the valve assembly process were as high as 193.4 ppm. A transjugular liver biopsy was performed in patient B; the results indicated drug/toxin-induced liver injury (DILI). Given the insignificant medical history and occupational exposure to high levels of HCFC-123, the toxic hepatitis of the two workers was likely related to HCFC-123 exposure. HCFC-123 was not included in the work environment assessment material prescribed in Korea. We are the first to report a case of death related to HCFC-123-induced liver damage. Our findings suggest that exposure standards and limits for HCFC-123 must be developed in Korea; work environments must be improved based on such standards.

Biography

Jihye Lee completed her Graduation from Catholic University of Korea. She has specialisation in Preventive Medicine and Public Health from Chung-Ang University. Later on, she started working at Occupational Safety and Health Research Institute (OSHRI) where she has continued her research.

neonsilver01@naver.com