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Poster Session V

Immunology, vaccination and host defences

SEROPREVALENCE OF VARICELLA-ZOSTER VIRUS AMONG HEALTHCARE WORKERS IN INCHEON, KOREA

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Objectives: Varicella is a recognized nosocomial infection among healthcare workers (HCWs), who, once infected, may transmit infection to susceptible coworkers and patients under their care. Varicella-zoster virus (VZV) vaccination has been recommended by the US CDC for HCWs who are susceptible to varicella. In Korea, national recommendations regarding VZV vaccination for susceptible HCWs have not been issued to date. A seroprevalence survey for VZV, followed by an adequate varicella vaccination program is necessary in the hospital setting. The aims of this study were to assess serological immunity against varicella in a tertiary care teaching hospital in Korea and to provide scientific evidence for development of effective screening and varicella immunization policies for HCW.

Methods: This cross-sectional study was undertaken at Gachon University Gil Medical Center, a 1500-bed tertiary care hospital with 2,200 employees in Korea. The subjects included in this study were newly positioned HCWs at higher risk of exposure to varicella (pediatrics, hematooncology, emergency department, hemodialysis room and intensive care units) and newly employed interns from 2009. The results of specific IgG antibody against VZV were collected from 2009 to 2013. The IgG level was tested by chemiluminescence immunoassay.

Results: Between 2009 and 2013, a total of 748 HCWs were surveyed comprising of 276 interns, 363 nurses, 83 nursing assistants, 26 housekeeping staffs. There were 218(29.1%) males and 530(70.9%) females. The median age was 27 (IQR, 25-31). Of the HCWs tested, 710(94.9%) were seropositive to varicella, 27(3.6%) were seronegative and 11(1.5%) were borderline. There is no significant difference in the annual prevalence rate of seropositivity to varicella virus throughout this period (Table 1). There are no significant differences in age, gender and types of occupation between seropositive group and seronegative group.

Conclusion: Although seroprevalence of varicella was high among HCWs during 2009–2013, a significant number of HCWs in our hospital remained susceptible to varicella. To prevent transmission of vaccine-preventable infectious disease such as varicella among HCWs and patients in hospitals, targeted immunization programs using serological screening is recommended.

Table1. Characteristics and serological results of 748 healthcare workers.

	2009	2010	2011	2012	2013	Total
Number (%)	130 (17.4)	131 (17.5)	161 (21.5)	154 (20.6)	172 (23)	748
Median age (IQR)	26 (25-27)	29 (28-30)	30 (24-32)	25 (23-30)	28 (25-32)	27 (25-31)
Female (%)	96 (73.8)	93 (71)	114 (70.8)	103 (66.9)	124 (72.1)	530 (70.9)
Results						
Positive (%)	710 (94.9)	125 (96.2)	127 (96.9)	144 (89.4)	149 (96.8)	165 (95.9)
Negative (%)	27 (3.6)	4 (3.1)	2 (1.5)	11 (6.8)	4 (2.6)	6 (3.5)
Borderline (%)	11 (1.5)	1 (0.8)	2 (1.5)	6 (3.7)	1 (0.6)	1 (0.6)