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Project Title: Seroepidemiology of Parvovirus B 19 infection in Taiwan

Project Number:DOH96-DC-2039

Executing Institute: Centers for Disease Control, Taiwan

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Abstract:

Purpose: To study the seroprevalence of parvovirus B19 infection in communities, in pregnant women, and health care workers (HCWs). Also, find out the possible risk factors associated with HCWs.

Methods: 763 serum samples were tested for parvovirus B19 IgG by enzyme immunoassay (EIA). Three samples sources were defined as from community (n=467, aged 1-69 years), from screening test of pregnant women (n=241, aged 15-51 years), and from HCWs (n=55, 25-57 years). Retrospective analysis was performed in the first two groups. For HCWs, serum samples were collected accompany with questionnaire survey in October 2007.

Results: The seropositivity of parvovirus B19 infection in the community, pregnant women, and HCWs were 34.0%, 27.8%, and 23.6% respectively. In the group of community, the seroprevalence was increased with age ($p < 0.0001$) but not different in gender. In the group of pregnant women, the seropositivity was ranged from 21.4% to 33.3% without influence by ages. Compared with the EIA results of pregnant women and people at the same age in the community, the seroprevalence was similar (n=355, aged 15-44, OR=1.5, 95% CI: 0.9-2.5). Among HCWs, years of clinical working experience were possibly associated with seroprevalence of parvovirus B19 infection ($p=0.04$) but not significant after adjusted with age ($p=0.07$) by multivariate logistic regression. The seropositivity is associated with neither child-bearing nor numbers of family members in HCWs.

Conclusions: In the community group, the seropositive rate of parvovirus B19 increased significant with age showing a dose-response relationship. In pregnant women, the seropositivity was not different from the community group, adjusted with age. Among HCWs, seropositivity is possibly associated with years of clinical working experience.

Keywords: Parvovirus B19, seroepidemiology, seroprevalence, risk factors