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Paper Poster Session
Reducing cross-contamination and transmission

Delayed isolation precautions for varicella-zoster virus have minimal impact on health care workers: management and outcomes in a high-prevalence area

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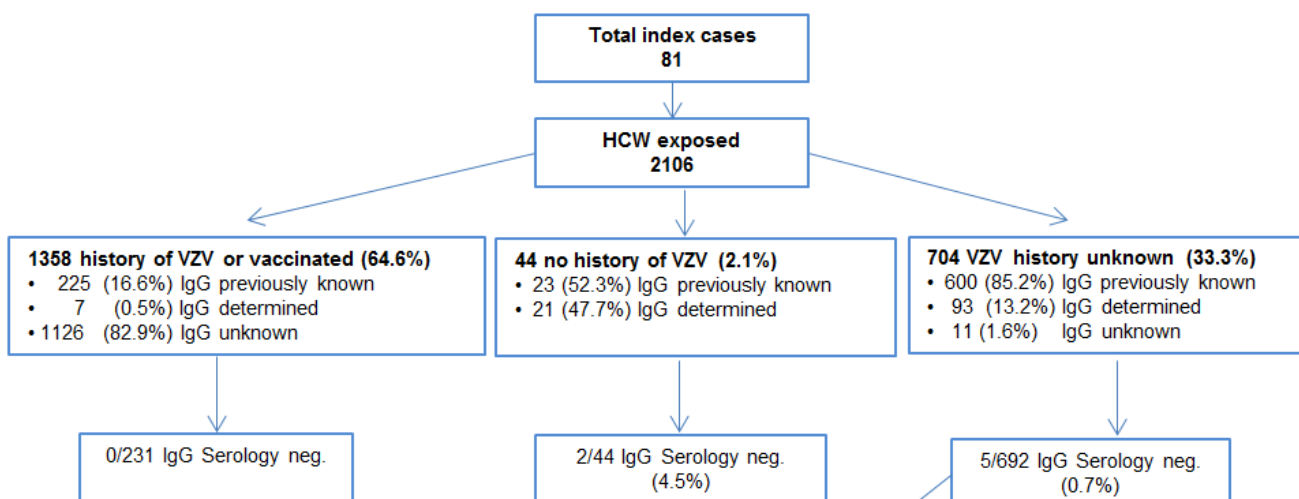
Background: Delayed airborne isolation of hospital patients with varicella-zoster virus (VZV) infection usually triggers an investigation of potential transmission to exposed healthcare workers (HCW). Our aim was to describe these investigations at Bern University Hospital, Switzerland, from 2004-2014.

Material/methods: Index patients and corresponding HCW contacts were identified via records of the infection prevention program and the occupational health service. For the contacts, history of prior VZV disease or vaccination, results of current and previous VZV IgG tests, and measures taken by the occupational health service (vaccination and/or work restriction) were determined.

Results: During the 11-year study period there were a total of 81 index cases and 2106 HCW contacts, for 972 (46.2%) of which a VZV IgG result was available. Of these 972, 965 (99.3%) were VZV IgG-seropositive and most of them, 839 (86.9%) had been known before. In multivariable linear regression, increasing study years correlated positively with the proportion of HCW with previously documented VZV IgG ($R=0.11$, $p<0.001$) but not with the annual number of contact tracings ($R=0.01$, $p=0.12$).

Among the seven (0.3%) HCW contacts with negative VZV IgG, four (57%) were known from previous testing. Five of these seven contacts received active VZV vaccination within a median of 10 days (range, 1-30) but 2/5 (40%) became symptomatic despite vaccination (Figure 1).

Figure 1: Overview of health care workers with varicella-zoster virus exposure



Abbreviations: VZV: Varicella-zoster virus

HCW: Health care workers

na: not available

Conclusions: A very small number of VZV IgG-seronegative HCW were identified in this 11-year contact tracing and clinical consequences were even fewer. Efficacy of active VZV vaccination in this “real-life” setting was poor. Although the proportion of contacts with documented VZV IgG prior to exposure increased over the study period, the overall number of evaluated contacts remained high. Based on this analysis we suggest, that in countries with a high childhood VZV prevalence HCW should be offered screening/vaccination upon employment, however, contact tracing of HCW following VZV exposition can be omitted.