

POSTER PRESENTATION

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Serological response to pandemic influenza A/H1N1 2009 and seasonal influenza A/H3N2 among health care workers (HCWs) in JIPMER, Puducherry

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Background

Serum antibody titers against influenza viruses are regarded as markers of partial or complete immunoprotection. Antibody titer of ≥ 40 is associated with at least a 50% reduction in risk for infection or disease.

Methods

Serum was collected from 138 HCWs including laboratory personnel, doctors and nurses working at JIPMER, Puducherry during August - October 2013. Details of influenza vaccination and laboratory confirmed influenza infection were noted. Hemagglutination inhibition assay was performed to determine the serum antibody levels against WHO reference antigens – pandemic influenza A (H1N1) A/California/07/2009, seasonal influenza A (H3N2) A/Victoria/361/2011.

Results

Fifty of the HCWs had received pandemic influenza vaccination at least once in the previous three years. All HCWs had antibody titers ≥ 40 against seasonal influenza A/H3N2. Antibody titers against pandemic influenza A/H1N1 2009 ranged from ≤ 20 (16.7%) to 320 with 36.9% showing borderline protective titers ($=40$). Six of the vaccinated HCWs had non-protective antibody titers while 71 unvaccinated HCWs showed protective titers. Only one HCW developed seasonal influenza A/H3N2 infection despite having borderline protective antibody titer of 40 and his convalescent serum sample after two weeks showed fourfold rise in titers.

Conclusion

This study showed protective antibody levels against pandemic influenza A/H1N1 2009 and seasonal influenza A/H3N2 among a large percentage of HCWs, regardless of vaccination status, which may be the primary reason for the low incidence of influenza cases encountered this year.

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