

Resurgence of Influenza A (H1N1) Pdm09 during November 2015 - February 2016, Pakistan

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Abstract : Background: To investigate the epidemic resurgent wave of influenza A (H1N1) pdm09 infections during 2015-16 Influenza season(Nov,15 -Feb,16) we compared epidemiological features of influenza A (H1N1) pdm09 associated hospitalizations and deaths during this period in Pakistan. Methods: Respiratory samples were tested using CDC Real-Time RT-PCR protocols. Demographic and epidemiological data was analyzed using SPSS. Risk ratio was calculated between age groups to compare patients that were hospitalized and died due to influenza A (H1N1) pdm09 during this period. Results: A total of 1970 specimens were analyzed; influenza virus was detected in 494(25%) samples, including 458(93%) Influenza type A and 36(7%) influenza type B viruses. Amongst influenza A viruses, 351(77%) A(H1N1) pdm09 and 107(23%) were A/H3N2. Influenza A(H1N1)pdm09 peaked in January 2016 when 250(54%) of tested patients were positive. The resurgent waves increased hospitalizations due to pdmH1N1 as compared to the rest part of the year. Overall 267(76%) A(H1N1) pdm09 cases were hospitalized. Adults ≥ 18 years showed the highest relative risk of hospitalization (1.2). Median interval of hospitalization and symptom onset was five days for all age groups. During this period, a total of 34 laboratory-confirmed deaths associated with pandemic influenza A (H1N1) were reported out of 1970 cases, the case fatality rate was 1.72%. the male to female ratio was 2:1in reported deaths. The majority of the deaths during that period occurred in adults ≥ 18 years of age. Overall median age of the death cases was 42.8 years with underlying medical conditions. The median number of days between symptom onset was two days. The diagnosis upon admission in influenza-associated fatal cases was pneumonia (53%). Acute Respiratory Distress Syndrome 9 (26%), eight out of which (88%) required mechanical ventilation. Conclusions: The present resurgence of pandemic virus cannot be attributed to a single factor. The prolong cold and dry weather, possibility of drift in virus and absence of annual flu vaccination may have played an integrated role in resurfacing of pandemic virus.

Keywords : influenza A (H1N1)pdm 09, resurgence, epidemiology, Pakistan

Conference Title : ICEID 2017 : International Conference on Epidemiology and Infectious Diseases

Conference Location : Boston, United States

Conference Dates : April 24-25, 2017