

Correspondence

Cases of pandemic influenza A (H1N1) 2009 in western Rajasthan, India

Sir,

Pandemic influenza A (H1N1) 2009 has appeared as a major disease outbreak recently¹. North-western Rajasthan, India, witnessed severe epidemic of this influenza type from November, 2009 till January, 2010. Presence and distribution of test positive cases of pandemic (H1N1) 2009 was studied to report the occurrence of diseases in this region and to generate knowledge on the epidemiological transition of disease in the affected areas.

As one of the authorized laboratories of Indian Council of Medical Research, in the State of Rajasthan, we provided molecular diagnosis of throat swabs collected from the patients suffering from influenza-like illness (ILI)² by the group of hospitals associated with Dr S.N. Medical College, Jodhpur from November, 2009 till April, 2010. This hospital based study reports the test positive results of pandemic (H1N1) 2009 cases based on the molecular diagnosis of 1782 throat swabs from six districts of north-western Rajasthan, India.

The throat swabs of suspected cases of ILI were collected by the treating physicians of associated group of hospitals attached with the medical college. The patients without sudden fever (<38°C) and sore or cough throat, were excluded. The tip of the swab was put in a vial containing 2-3 ml of viral transportation medium (VTM) and transported in cold containers to our laboratory following WHO protocol². The samples were kept at 4°C in a Bio Safety Level (BSL-2) laboratory designed for the purpose of molecular diagnosis of pandemic (H1N1) 2009.

The throat swabs in VTM were processed in a Bio Safety Cabinet (BSC II) manufactured by M/s ESCO, Singapore. As per the laboratory criteria for

diagnosis of influenza specimens suggested by WHO, the RT-PCR protocol was adopted². Processing of samples was done according to the CDC standard protocol³. High speed ultracentrifuge (Optima Max-XP, Beckman Coulter, USA) and refrigerated centrifuges (Universal 320 R, Hettich, Germany) were used. Samples divided into aliquots for re-testing and long storage purpose were stored in ultra low deep freezer (New Brunswick Scientific, UK). Use of appropriate biosafety measures and personal protection equipment (PPE) were as per CDC's and WHO laboratory biosafety guidelines^{4,5}. RNA extraction kit (Qiagen, USA) and primers (ABI, USA) were also according to the CDC protocol³. The RT PCR equipment model 7500 (ABI, USA) was used. The clinical details of the patients were collected from the records.

Of the total 1782 throat swab samples of suspected cases with ILI diagnosed for pandemic (H1N1) 2009, 533 (29.9%) were tested positive. Maximum cases (298; 42.4%) were observed during December 2009. The epidemic of pandemic (H1N1) 2009 persisted during November 2009 (39.3%) till February 2010 (15.4%). No cases were observed during March and April 2010 (Table).

Table. Month-wise distribution of pandemic (H1N1) 2009 cases in Jodhpur, India (2009-10).

Month (yr)	Total cases	Positive cases	% positive
November 2009	262	103	39.3
December 2009	681	289	42.4
January 2010	437	86	19.7
February 2010	357	55	15.4
March 2010	43	0	0
April 2010	2	0	0
Total	1782	533	29.9

In rural (125; 45.4%) as well as urban areas (164; 40.6%), maximum cases of pandemic (H1N1) 2009 were observed during December 2009 (289; 42.4%) and least (22; 18.4% in rural areas & 33; 13.8% in urban areas) during February 2010. Pooled data suggested that 206 (32.4%) of 634 samples examined from the patients reporting from the rural areas were positive, whereas 327 (28.4%) of 1158 samples tested from urban areas, were found positive.

Age-wise distribution of pandemic (H1N1) 2009 test positive cases was made among men as well as women in urban and rural areas. In urban areas, maximum positive cases were observed in the age group of 21-30 yr (91 cases; 29.54%) of which 47 were male and 44 female. Similarly, in rural areas, maximum incidence of pandemic (H1N1) 2009 was observed in the age group of 21-30 yr (60 cases, 30%) of which 22 were male and 38 female.

Pandemic (H1N1) 2009 has appeared as a major outbreak recently, with India as one of the severely affected countries¹. Many reports on its occurrence in Mexico⁶, Japan⁷ and England⁸ have been published. However, very limited data on the occurrence of pandemic (H1N1) 2009 from different part of India have been published⁹. This perhaps is the first report on the occurrence of this disease from Rajasthan, India. The first case of pandemic (H1N1) 2009 from India was reported from Hyderabad in the travellers from USA¹. The present data show commencement of disease in western Rajasthan since November 2009.

Acknowledgment

Authors acknowledge the Director-General, Indian Council of Medical Research, New Delhi for financial support, and Dr Bela Shah, Director-In-Charge, DMRC (ICMR), for guidance. Authors thank Drs A.C. Mishra and J. Mullick, National Institute of Virology (ICMR), Pune, for providing the training and reagents/kits.

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