

1. COMMUNICABLE DISEASES

1.1 Comparative study of Gene characterization of Influenza A pandemic (H1N1) 2009 viruses from virus isolates of 2009 pandemic and 2012 re-emerging viruses in western Rajasthan: Phylogenetic analysis and molecular characterization

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OBJECTIVES

1. Comparative study of Gene sequences of virus isolates of influenza A pandemic (H1N1) 2009 viruses caused pandemic in 2009-10 and re-emergence during 2012.
2. Genome analysis of sequences obtained in available data base to study regional strain specificity of viruses.
3. Extrapolation of sequences over clinical conditions of patients to study possible viral genomic basis of clinical conditions.

PROGRESS:

Objective 1. Comparative study of Gene sequences of virus isolates of influenza A pandemic (H₁N₁) 2009 viruses caused pandemic in 2009-10 and re-emergence during 2012

Swab samples positive for H1N1 virus were taken for whole genome study. The clinical conditions of the patients were taken into consideration and then the ct values and amplification curves detected during their QRT-PCR analysis were checked. Samples positive for H1N1 diagnostic tests showing well defined curved for all the diagnostic gene segments were processed further for sequencing.

The details of samples selected for the study have been given in Table 1.

Table 1. Details of the clinical characteristics and molecular diagnosis of samples processed for phylogenetic analysis

S. No.	Sample Characteristics	Year of infection	Ct values of all diagnostic gene segments as observed for Real Time RT-PCR assay			
			Inf A	RNP	SwA	SwH1
1.	Expired case, Female, 45yrs., Barmer district, Rajasthan Case File code: 4	2015	26.09	32.56	-	30.19
2.	Recovered case, Female, 45 yrs., Barmer district, Rajasthan Case File code: 5	2015	24.56	25.63	14.33	25.99
3.	Expired case, Male, 69 yrs., Jodhpur district, Rajasthan Inoculated in amniotic cavity of 10 day old chick egg Case File code: 9	2012	19.62	19.77	27.95	20.94
4.	Recovered case, Female, 40 yrs., Jodhpur district, Rajasthan Case File code: 8	2012	21.11	22.97	27.13	24.87
5.	Expired case, Pregnant Female, 20yrs., Jodhpur district, Rajasthan Case File code: 7	2009	23.50	20.90	29.80	26.60
6.	Recovered case, Female, 23yrs., Jodhpur district, Rajasthan Case File code: 6	2009	24.51	23.07	26.41	28.40

Objectives 2 & 3. Genome analysis of sequences obtained in available data base to study regional strain specificity of viruses

Genome sequencing, genome assembly and annotation, nucleotide and associated amino acid variations analysis compared to reference and performing phylogenetic studies of six clinical samples is under progress.