

# Influenza A H1N1 hemagglutinin and human axon guidance proteins: Peptide sharing but not same epitopes

Sir,

There are some recent report mentioning the common pathobiological process between influenza virus infection and schizophrenia. Landreau *et al.*, studied on “effects of two commonly found strains of influenza A virus on developing dopaminergic neurons, in relation to the pathophysiology of schizophrenia”.<sup>[1]</sup> Landreau *et al.*, proposed for possible similar “common specific mechanism” between influenza infection and schizophrenia.<sup>[1]</sup> Recently, Lucchese *et al.*, examined “influenza A H1N1 hemagglutinin (HA), an antigenic viral protein, for amino acid sequence similarity to a random library of 188 axon guidance proteins” and found sharing peptide.<sup>[2]</sup> Lucchese *et al.*, proposed that “immune cross-reactivity between influenza HA and axon guidance molecules” might be the explanation to support the theory of co-pathophysiology between influenza and schizophrenia. However, it should be noted that having common sharing peptide does not means sharing function. To approve that there is a cross-immunity that leads to development of schizophrenia in patients experiencing influenza infection, the study on immunogenicity of the influenza HA and axon guidance molecule is needed. Here, the authors tried using bioinformatics technique (standard technique as described in previous studied)<sup>[3,4]</sup> to access the epitope part within influenza HA and axon guidance molecules. Of interest, the result shows that the parts of molecules with highest epitope property in influenza HA and axon guidance molecules is not the same. Hence, to conclude that there is a cross-immunity leading common pathophysiology process between influenza

infection and schizophrenia has been supported by further scientific evidences. Here, it does not support that theory.

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Quick Response Code:	Website: www.ijhg.com
	DOI: 10.4103/0971-6866.124386