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Colocalization of intracellular specific IgA (icIgA) with influenza virus in patients' nasopharyngeal aspirate cells.

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Abstract

Inhibition of viral replication by icIgA antibodies has only been observed with *in vitro* studies using epithelial cell lines in transwell cultures. This effect appears to involve an interaction between polymeric immunoglobulin A (pIgA) and viral particles within an intracellular compartment, since IgA is transported across polarized cells. Polyclonal guinea pig antisera against purified influenza A virus and mouse antisera prepared against Influenza A/H3N2 hemagglutinin (HA_0) cleavage loop peptides, were used in confocal fluorescence microscopy to show specific staining of wild-type influenza H1N1 and H3N2 viruses in clinical specimens. The HA_0 cleavage loop peptides used for intranasal immunization of mice were designed and synthesized from specific conserved regions of influenza A/H1N1 & A/H3N2 viruses. Anti-human secretory IgA antibodies were used to show co-localisation of influenza A virus and icIgA. The results showed specific immunofluorescent staining of influenza A/H3N2 (X31) (HA_0 uncleaved)-infected MDCK cells and the presence of icIgA in respiratory exudate cells of infected patients.