Flu 09 Summary:

73 individuals with flu like symptoms and 126 of their household contacts were enrolled during the 2009-2010 and 2010-2011 flu seasons.

Index cases (N=56) are individuals who displayed influenza-like symptoms within 96 hours of enrollment that were confirmed influenza virus positive by RT-PCR in a nasal swab at Day 0 (day of enrollment).

Converted flu-positive contacts (N=13) are household contacts of index cases that enrolled in the study with no symptoms and provided samples at Day 0 (day of enrollment) that were confirmed to be influenza virus negative. These individuals tested influenza positive by RT-PCR after Day 0.

Index case participants provided nasal swabs, nasal lavages and blood on day of enrollment (d0) and at days 3, 7, 10 and 28. Converted flu-positive contact cases provided nasal swabs, nasal lavages and blood on day of enrollment (d0) and at days 3, 7 and 14.

Participants were asked to score severity of symptoms based on a visual analog scale.

Flow cytometry was done on PBMCs and nasal lavage cells for surface expression of CD14, CD16 and HLA-DR (MHCII) to quantify monocytes and monocyte activations. Single stain and fluorescence-minus one controls were performed.

Viral load was determined in the nasal swabs by qRT-PCR.

Cytokine analysis was performed by Milliplex MAP human cytokine immunoassay in nasal lavage and plasma samples. The panel of 39­­ cytokines and chemokines included VEGF, TNFα, TNFβ, TGFα, sIL2Rα, sCD40L, MP1α, MP1β, MDC, MCP1, MCP3, IP10, IL17, IL15, IL13, IL12p40, IL12p70, IL10, IL9, IL9. IL7, IL6, IL5, IL4, IL3, IL2, IL1Ra2, IL1α, IL1β, IFNγ, IFNα2, GRO, GM-CSF, G-CSF, FKN, Flt3Ligand, FGF2, Eotaxin, and EGF.

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