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Multicenter study for the detection of antibodies against influenza A virus

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Background: The Influenza A virus has constant variations, giving rise to the emergence of new strains. In each infection the human body produces antibodies, but when a new influenza virus emerges the preformed antibodies do not recognize it. But also after exposure induce antibody production and a memory immune response. In April 2009 there was a rise in flu cases in Mexico City, that later turned into a pandemic. Objective: To evaluate the presence of antibodies against the seasonal influenza virus (IAVS) and the new virus (IAVN) during the 2009 pandemic.

Methods: We studied five work centers (3 hospitals and 2 universities) with a total of 1595 blood samples from people without influenza virus infection and with different risk (exposure and vaccination), age and sex. Antibody detection was performed by the technique of hemagglutination inhibition. As viral antigen, IAVN and IAVS were used.

Results: 25.5% presented antibodies IAVS and 41% against IAVN. Of all the people included, 24% had received IVAS vaccine and of these, 52% had antibody titers against both viruses, only 8% against the IAVS, and 44% against IAVN. The average age of participants was 35 years. The greatest number of people with antibodies and higher titers corresponded to hospital staffs. The antibody titer was greater for IAVN than IAVS, even if they had received the vaccine IAVS.

Conclusion: The greatest number of people with antibodies to both viruses was the hospital staff and was significant in the case of new virus ($p < 0.002$), indicating that their exposure was greater when dealing with infected patients. It is interesting to note that hospital staff is vaccinated annually against IAVS, however the number of people with antibodies to the seasonal virus was low. The presence of antibodies may provide guidance on some aspects such as proximity or exposure to the virus or the hability

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Hepatitis B and hepatitis C viruses' infections among antiretroviral naive and experienced HIV co-infected adults in Addis Ababa, Ethiopia

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Background: Although ARV has significantly reduced HIV/AIDS-related deaths, co-infection with HBV and HCV viruses have increasingly contributed to the morbidity and mortality associated with HIV infection. The aim of this study was to investigate existing trend and future threats of HBV and HCV co-infections with HIV, and explore the relation of HBV markers among ARV-naïve and experienced subjects co-infected with HIV.

Methods: A total of 500 frozen HIV positive plasma and serum samples collected from ARV-naïve (n=250) and experienced (n=250) subjects seeking VCT and ARV services in Bethezata Health Services P.L.C and Bethel Teaching General Hospital in Ethiopia were screened for HBsAg, anti-HBs, HBeAg, and anti-HCV using a rapid two-site sandwich immuno-chromatographic assay. Samples screened positive for HBsAg were confirmed using third generation ELISA.

Results: Of the 500 specimens tested, 15(3%), 58(11.6%), 3(0.6%), and 18(3.6%) were positive for HBsAg, anti-HBs, HBeAg, and anti-HCV markers respectively. Three (0.6%) patients were tested positive for both HBsAg and HBeAg, whereas 1(0.2%) was tested positive for HBsAg and anti-HBs. No patient was identified positive for both HBeAg and anti-HBs. Of 250 ARV naïve subjects tested, 8 (3.2%), 33 (13.2%), 2 (0.8%), 10 (4%), 2(0.8%), and 1(0.2%) were positive for HBsAg, anti-HBs, HBeAg, anti-HCV, HBsAg and HBeAg, and HBsAg and anti-HBs respectively. Of 250 ARV-experienced subjects tested, 7 (1.4%), 25 (5%), 1 (0.2%), 8 (3.2%), 0(0%), and 1(0.2%) were positive for HBsAg, Anti-HBs, HBeAg, anti-HCV, HBsAg and HBeAg, and HBsAg and anti-HBs respectively.

Conclusion: HBV and HCV infections were not significantly different between persons who were or who were not on ART, which suggests that the two groups have equal chances to be infected with these two infections, despite disease progression. Current HIV/AIDS treatment algorithm in Ethiopia should incorporate screening all HIV infected persons for HBV and HCV markers, immunizing patient screened negative for HBV markers, and providing health education on prevention of HBV and HCV for patients co-infected with HIV. The current national ART supply chain package in the country would incorporate HCV and HBV test kits distribution to health facilities.

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