

Genotype and antiretroviral drug resistance of human immunodeficiency virus-1 in Jazan, Saudi Arabia

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Introduction: HIV is a major public health problem. HIV genotyping and antiretroviral resistance testing is an important guide for better management of treatment-naïve cases. Antiretroviral resistance testing before start of treatment regimen leads to better virological response. In treatment-naïve individuals, the prevalence of transmitted drug resistance is dependent on the prevalence of drug resistance in the community. Scarce data are available on this subject in Saudi Arabia.

Aim: To investigate HIV-1 genotypes in Jazan, Saudi Arabia and to identify the most common HIV-1 antiretroviral mutations.

Methods: A total of 57 samples were collected from King Fahd Hospital, Jazan, Saudi Arabia from treatment-naïve patients. All samples were screened for HIV antibodies by EIA and Western blot. HIV-1 genotypes and drug resistance were determined by RT-PCR followed by sequencing.

Results: In the studied population, HIV-1 genotypes were as follows: C:39, D and G:5, B:4, CRF01_AE:2, A and CRF02_AG:1. Of the recruited subjects, 78.9% showed antiretroviral susceptibility to all 3 major classes of antiretroviral; while 10.5% had mutations known to confer high-level resistance to one or more of NRTI. Mutations known to confer high-level resistance to PI were detected in 1.8% of the cases. Low-level resistance mutations to one or more of NRTI were detected in 10.5% of the cases, with 1.8% had mutations known to confer low-level resistance to both NNRTI and PI. Mutations known to confer potential low-level resistance to NNRTI were detected in 3.5% of the cases. Antiretroviral associated mutations included: M184V, V179DV, E138A, V82A+I84IV, L33LF, L89LMV, L10F+Q58E, L10FV, and L10F+V82Y.

Conclusion: The prevalence of HIV-1 antiretroviral resistance mutations is 21.1% in the studied population which might justify for antiretroviral drug resistance testing prior to initiation of treatment to help selecting the proper HIV treatment regimen.

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Influenza vaccine Coverage and Efficacy among King Salman Armed Forces Hospital 2017-2018

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Background: Despite recommendations for annual influenza vaccination of health care workers (HCWs) still vaccination coverage is low, studies suggested that misconceptions about safety or efficacy discourage HCWs from up taking the vaccine.

Methods: This is a case control study to measure coverage and efficacy of seasonal influenza vaccination among HCW at king Salman Armed Forces Hospital- Saudi Arabia 2017-2018. Case group were vaccinated (324) and control group were not (324).

Results: Total number of employee 4118, Influenza Vaccination coverage among employee, non-medical and medical are 45.11%, 34.76% and 61.73% respectively. The results showed higher acceptance rate among female than male, higher among non-Arabic nationality next, non-Saudi Arabic then Saudi nationality but did not show relationship with age or smoking. Comparison of the two groups for vaccine efficacy failed to report any association between vaccination status and incidence of influenza like illness, pneumonia, severe acute respiratory infection, hospital admission, seeking medical care or even decreasing duration of sick leaves. Willingness

to uptake the coming vaccine found to be associated with up taking the current one and no association with being infected during this season.

Conclusion: This study revealed vaccination acceptance rate increases with being male, non-medical staff Non- Arabic and Non-Saudi Arabic nationality rather than Saudi one, no relationship with age group and smoking. However, failed to show association between up taking the vaccine and lowering incidence of influenza like illness, pneumonia, severe acute respiratory infection, hospital admission, seeking medical care or even decreasing duration of sick leaves. We suggested that vaccine-targeted viruses are not compatible with the circulating viruses at Tabuk area, so studies are needed to identify these viruses.

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Screening for Helicobacter pylori Infection among Asymptomatic University Students in Alexandria, Egypt, Using Non Invasive Laboratory Technique

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Background and purpose: Globally, *Helicobacter pylori* (*H. pylori*) is becoming an increasingly troublesome economic and public health problem. Over 50% of the world's population was estimated to harbor *H. pylori* in the upper gastrointestinal tract (GIT) and over 80% of them reside in developing nations. Unless treated, colonization persists lifelong where *H. pylori* presents a key factor in the etiology of GIT diseases; ranging from asymptomatic chronic gastritis up to gastric carcinoma. Therefore, accurate and timely diagnosis is the first step to address this burdensome problem. The aim of this descriptive-cross sectional study was to compare two non-invasive techniques for the diagnosis of *H. pylori* infection among university students.

Methodology: Stool and serum samples were collected from one hundred asymptomatic students to detect *H. pylori* antigens (Ags) in stool using chromatographic immunoassay and IgG antibodies (Abs) in serum by enzyme linked immune sorbent assay (ELISA). Data were analyzed using IBM SPSS software package version 20.0.

Results and discussion: Fifty five (55%) of tested students were positive for each of stool Ags and serum Abs. The recorded sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of the serum Ab test in relation to stool Ag test were 98.18%, 97.78%, 98.18% and 97.78, respectively.

Conclusion: There was very good agreement (98%) between the results of stool Ag test and ELISA test in screening for *H. pylori* infection among asymptomatic subjects.

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