

The importance of serological testing and the risk factors of measles, mumps, rubella and VZV among HIV-infected adults in Istanbul, Turkey during measles outbreak in Europe

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Background: Measles, mumps, rubella (MMR) and varicella zoster virus (VZV) infection can cause serious diseases and complications in HIV/AIDS patients. Due to successful vaccination programmes, measles has become negligible in Turkey. Despite the influx of over 4 million refugees from Syria in the last seven years, any outbreak of measles has not been encountered in our country. However, recent outbreaks of measles are ongoing in Europe, especially in Italy, France, Romania and Turkey's next-door neighbour Greece (1). The objective of this study was to determine of MMR and VZV seronegativity and the risk factors associated being seronegative in HIV-infected adults in Istanbul, Turkey.

Materials and methods: All HIV-infected patients in our cohort, whose MMR and VZV serological tests were performed between January 2016 and May 2018, were retrospectively identified. Sera were tested for MMR and VZV IgG using commercial immunoassays. Age, gender, CD4 cell counts, MMR and VZV IgG serological results were evaluated based on the records. Statistical analyses were conducted by using the SPSS 21.0 for Windows. Categorical variables were compared using Chi-square and Fisher's exact tests.

Results: MMR and VZV IgG serologies were available in 415 of 712 patients in active follow-up (58.2%). Out of 415 naive patients 88.6% were men and the median age was 35.6 years (range, 18-67). Seronegativity was found in 3.9% for measles, 4.8% for rubella, 8.2% for mumps and 3.4% for VZV. Among 18.7% measles, 23.5% mumps, 35% rubella and 7.1% varicella IgG seronegative patients CD4 cell count was less than 200/mm³. Patients born in 1983 and after are strongly associated with seronegativity against measles ($p=0.00$) and a nadir CD4 cell count below 200/mm is independently associated with rubella seronegativity ($p=0.013$).

Conclusions: There is a high need for MMR vaccination in HIV-infected patients in Turkey, who were born in 1983 or after. Measles continues its spread across Europe as the vaccination coverage in many European countries is suboptimal. Systematic measles antibody screening and vaccination should be performed in HIV-infected individuals to prevent serious disease and complications in the era of vaccination.

References

1. European Centre for Disease Prevention and Control. Monthly measles and rubella monitoring report, April 2018. Stockholm: ECDC; 2018.