

Measles Seroprevalence and Vaccine Responses in HIV-Positive Patients

Dear Editor,

We read with great interest the cross-sectional study by Rearigh et al. on levels of measles immunity in HIV-infected persons. Their findings support expanded measles immunity screening for HIV-positive patients who are at risk of measles exposure [1], whereas a systematic review by Loevinsohn et al. on measles seroprevalence and vaccine responses in HIV-infected adolescents and adults concluded that current studies do not support the need for an additional dose of measles-containing vaccine in this specific population [2]. First, we would like to note that the specificity of local endemic needs to be considered. In 2018, there was a 5× increase in measles in Poland, with 335 cases confirmed [3]. The majority of measles cases in Europe were reported in Ukraine (which borders Poland), with >54 000 cases [4]. We believe that the historical background of the local vaccination scheme needs to be taken into account while incorporating decisions on vaccination scheme, especially in immunocompromised populations. Historically, in 1975 a national vaccination program against measles in Poland began. Initially, 1 dose of a monovalent

measles vaccine was administered at 13–15 months of age. Since 1991, 2 doses of a monovalent measles vaccine have been administered at 13–15 months of age and 8 years of age. Since 2004, 2 doses of the combined vaccine against measles, mumps, and rubella have been used [5]. Therefore, we evaluated the presence of measles antibodies in HIV-infected patients in order to establish local vaccination recommendations in this group of persons. Immunoglobulin G antibodies (IgGAb) against measles were tested by VIDAS MSG in 167 patients. Samples were collected between March and May 2019. Patients were divided into 2 groups: Group I—patients born before 1975 (before the introduction of the measles vaccine in Poland) and Group II—patients born in 1975–1990 (who received 1 dose of measles vaccine) [5]. Data on age, sex, vaccination history, and laboratory tests (CD4 and HIV VL) were collected from medical records (Table 1). In a group of older patients aged >45 years, the measles seroprevalence was high, reaching about 90%; vaccination should be considered after testing specific antibodies. Among patients who received 1 dose of the measles vaccine, the presence of IgGAb measles was quite low, only 37%. In measles, herd immunity is obtained with vaccination coverage of 95% of the population;

in 2019 in Poland, only 92.6% had been vaccinated with the first dose, and 91.1% had received 2 doses of measles vaccine, which is not a sufficient co-protection [6].

A limitation is that the assessment of IgGAb does not differentiate whether it is produced in the course of disease or vaccination, and the disappearance of IgGAb in time may not be equivalent to the lack of immunization/protection. However, regarding the epidemiological situation in Poland in 2018, we recommend that patients who have only been vaccinated with 1 dose of monovalent vaccine receive an additional dose of vaccine (even if no specific antibodies can be tested). In our opinion, this recommendation should be extended to all regions following the same historical background of vaccination and local measles outbreaks, that is, Central and Eastern Europe, and repeated every few years.

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Table 1. Patients Characteristics Associated With IgGAb Measles

Feature	All (n = 167)	IgGAb (+) (n = 94)	IgGAb (-) (n = 73)	PValue
Male sex, No. (%)	142 (85.0)	80 (85.1)	62 (84.9)	1.000
Age, median (IQR), y	41.1 (35.8–48.9)	46.3 (37.9–55.9)	37.8 (34.4–41.8)	<.001
Last CD4, median (IQR), cells/μL	539 (395–684)	533 (370–717)	545 (406–650)	.721
Last CD4 >200 cells/μL, No. (%)	8/167 (4.8)	5/94 (5.3)	3/73 (4.1)	1.000
Last CD4 ≥200 cells/μL, No. (%)	159/167 (95.2)	89/94 (94.7)	70/73 (95.1)	1.000
Vaccination group, No. (%)				
Group I (no vaccination)	73 (37.7)	66 (90.4)	7 (9.6)	<.001
Group II (monovalent vaccine)	94 (58.7)	36 (38.3)	58 (61.7)	
Last HIV viral load, No. (%)				
>50 copies/mL	10 (6.0)	7 (7.4)	3 (4.1)	.516
≤50 copies/mL	157 (94.0)	87 (92.6)	70 (95.1)	

Abbreviations: IgGAb, immunoglobulin G antibodies; IQR, interquartile range.

Patient consent. The patient's written consent was obtained. The design of the work conforms to standards of Medical University of Warsaw's Bioethics Committee. The Medical University of Warsaw's Bioethics Committee approval number for this study is AKBE/154/21.

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