



# Enfermedades Infecciosas y Microbiología Clínica

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## Editorial

### Vaccination in adults with HIV in Spain: Where are we?

### Vacunación en adultos con VIH en España: ¿Dónde estamos?



Antiretroviral therapy has changed the situation of people with HIV into a chronic condition. Currently, the majority of people who are diagnosed with HIV immediately begin an antiretroviral treatment regimen that continuously suppresses viral replication. In this way, an immunological recovery steadily occurs leading to a drastic decrease in the risk of death from AIDS-defining events.<sup>1</sup> Unfortunately, a significant proportion of people with HIV are diagnosed late and, despite successful antiretroviral treatment, have incomplete immune recovery, which puts them at greater risk for developing health problems, including infections that are common in the general population.<sup>2,3</sup> On the other hand, people with HIV have a higher prevalence of factors that impede a healthy life such as smoking or the consumption of other drugs of abuse, which imply a greater risk for certain infections.<sup>4,5</sup> Some of these infections may be preventable in their development or, if they occur, develop with less severity through vaccination. The cases of serious hepatitis or pneumococcus infections reported in people with HIV infection show that they generally occurred in persons not vaccinated.<sup>6–8</sup>

Vaccination is a proven preventive strategy for many infections in the general population<sup>9</sup> and also in populations at higher risk such as people with HIV.<sup>10</sup> The benefits of vaccination, in general, outweigh any risks.<sup>11</sup> Risks generally include minor inflammatory processes or mild allergic reactions and, in extremely rare cases, more severe idiosyncratic reactions.<sup>12</sup> The public health systems of developed countries have been incorporating new vaccines and implementing more optimized ones. In Spain, there is a general vaccination schedule that is further implemented in a more specific way in each autonomous community.<sup>13</sup> The effectiveness of vaccines on a large scale has been clearly proven in the recent COVID-19 pandemic.<sup>14</sup>

Vaccination is a recommended but not mandatory preventive measure. Primary care physicians in the general population and specialists in certain diseases that can be associated with a higher risk of vaccine-preventable infections, are responsible for recommending and implementing vaccination in those susceptible people for whom specific vaccines are recommended. Despite the effectiveness, there are obstacles to the implementation of vaccines, including, among others, the fear of serious side effects, the influence of anti-vaccine currents of opinion, the inertia to receive

a measure that is not perceived as necessary or effective, and the lack of prescription by doctors who should recommend them.<sup>15–17</sup>

Victoria Hernando and collaborators<sup>18</sup> analyze the trends in vaccination for five infections (hepatitis A, hepatitis B, pneumococcus, tetanus and seasonal flu) in people with HIV infection in Spain between 2006 and 2021. They use the “Hospital Patient Survey with HIV”,<sup>19</sup> which includes all people with HIV infection treated as outpatients on a specific day of the year and is carried out in fifteen of the 17 autonomous communities and in the two autonomous cities. The results of the study show an increase in the percentage of people vaccinated against hepatitis A and B and pneumococcus over the years, although the percentages of tetanus and flu vaccinations were stagnant. The population analyzed is the adult population, which is the majority population with HIV in Spain. Fortunately, the pediatric population with HIV is small and its care is concentrated in specialized units. The implementation of the vaccination schedule is an essential part of pediatric care and the Spanish Pediatric Association<sup>20</sup> has issued clear recommendations on inactivated vaccines, which include 13-valent pneumococcal conjugate vaccine, 23-valent pneumococcal polysaccharide vaccine (in  $\geq 2$  years), conjugate vaccines against *Haemophilus b*, meningococcus B and tetravalent against meningococcus ACWY, vaccine against HBV and against human papillomavirus; For live vaccines such as vaccines against chickenpox and MMR (measles, mumps, and rubella), the patient’s immunosuppression stage must be taken into account and the vaccine should be administered only if  $CD4 \geq 200$  cells/mm<sup>3</sup>. In the adult HIV population, vaccination indications and guidelines are like those of the general population.<sup>21</sup> In general, the vaccine response in the population with HIV is lower the lower the CD4 count and if the plasma viral load is not suppressed, and it is precisely in these people where the risk of developing vaccine-preventable infections may be higher. As in the pediatric population, live vaccines are contraindicated if CD4 T lymphocytes are  $< 15\%$ . The duration of immunity is shorter than in the healthy general population and may require booster doses, especially when the previous vaccination was administered under circumstances that reduced its immunogenicity. However, it is a still unmet need how to best know the durability of the protection induced by vaccines.<sup>22</sup> Vaccination for infections that do not present an imminent risk is not an emergency and can be deferred until immunological recovery is achieved. In the article by Victoria Hernando et al.,<sup>18</sup> factors independently associated with vaccina-

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tion for the infections considered included a longer time since HIV diagnosis and having a CD4 T lymphocytes count > 200/mm<sup>3</sup>.

Due to its design, the article by Victoria Hernando et al.<sup>18</sup> does not provide a direct comparison with the general population, although the data reported in the population with HIV are comparable or even better than those of the general adult population.<sup>23,24</sup> Even so, there is a margin of opportunity for improvement. The population that acquired HIV infection through parenteral drug use was associated with a lower implementation of hepatitis A and B vaccines; Although this population may have acquired viral hepatitis with a higher risk, precisely because of this risk, they would be susceptible to priority vaccination if they had not acquired said infections. It is striking that the older population had a lower implementation of hepatitis A and B and tetanus vaccines than the younger population, even though they had a higher implementation of pneumococcus and influenza vaccines, in which age plays a very important risk role in severity, regardless of HIV infection. Doctors may not see older people with HIV as having a real risk of hepatitis A, hepatitis B, or tetanus. The vaccines included in the childhood vaccination schedule are increasingly more and more effective, and their effectiveness can be certainly extended to people who acquire HIV infection later.

Vaccines are instruments with proven cost-benefit evidence for the prevention of infections in the general population and in the population with HIV. The data from the study by Victoria Hernando et al.<sup>18</sup> offer a positive image of vaccination in the adult population with HIV in Spain and provide clues to continue improving in the future.

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