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Letter to the Editor

Redefining the paradigm of immunization in immunocompromised post-pandemic patients



Redefiniendo el paradigma de la vacunación en inmunodeprimidos después de la pandemia

Dear Editor,

Immunocompromised patients continue to be a challenge for the healthcare system. The application of new immunosuppressive treatments, as well as their greater survival, mean that this group of patients is continuously growing, while the efficacy with which current information systems can identify these patients within the general population is limited. For these reasons and despite the efforts of the Servicios de Medicina Preventiva y Salud Pública (SMPYSP) [Preventive Medicine and Public Health Services], as well as Primary Care (PC) services, the strategies implemented have proven to be insufficient to achieve the desired vaccination coverage in risk groups.¹

This coverage has at least three possible levels of intervention and management: (1) micro-management, by the SMPYSP and PC services that carry out the vaccination instructions issued by their reference health authority; (2) meso-management, by the Health Care and Public Health Directorates that encompass both these hospital and PC services, and (3) macro-management, through health policies and the strategic approach represented by the Health Services and Health Departments.² The interconnection of these three levels is required for a factual and significant change of course in improving vaccination coverage in risk groups.

Vaccination of immunocompromised patients has reached an inflection point in recent years. The COVID-19 pandemic has highlighted the above limitations by requiring actions that until now had not been carried out in the field of vaccinology. On the one hand, for the first time vaccination in these patients is being actively and rapidly prioritised due to their increased risk of serious infection. Secondly, also for the first time, the health authorities are making an effort to identify this group,³ as well as to determine its size within the general population.⁴ Lastly, there has been a positive normalisation of the immunocompromised concept among citizens and those affected through self-defining and actively demanding priority vaccination. Thus, albeit unintentionally, all of the above has led to the social construction of a culture of protection for immunocompromised patients, which had been little rooted until now.

Could what was experienced politically and socially during the pandemic be used to improve non-COVID-19 vaccination coverage in this group? How could we reintroduce and strengthen vaccination strategies for the immunocompromised?

In this letter to the editor, the authors propose promoting the vaccination of risk groups through the explicit incorporation of vac-

cines into the Procesos Asistenciales Integrados (PAIs) [Integrated Care Processes], or Programas Clave de Atención Interdisciplinar (PCAIs) [Key Interdisciplinary Care Programmes],⁵ as they are called in some autonomous communities. PAIs are defined as the set of activities carried out by healthcare providers (preventive strategies, diagnostic tests and therapeutic activities) to increase the level of health and the degree of satisfaction of the population; and are created with the aim of reaching an agreement, among the different specialties, professionals and levels of care involved in a health problem, on the role of each professional in order to achieve quality care, and to formalise the agreement in a care process shared by all of them.⁶ The PAIs are driven and promoted by the Health Services and Health Departments, being a macro-management strategy aimed at improving healthcare and public health. Yet despite the fact that most of the published documents address diseases with a specific indication for vaccination (solid organ tumours, transplants, chronic obstructive pulmonary disease, etc.), hardly any direct mention is made of the need to improve the protection of these patients through vaccines.

We believe that the PAIs meet the ideal characteristics (multidisciplinary approach, preventive strategy and involvement of managers) to be able to integrate the vaccination of high-risk patients and review their vaccination schedule in accordance with current recommendations. The leap in vaccination of immunocompromised patients, from micro-management (SMPYSP and PC) to macro-management (Health Services and Health Departments), and the involvement of all stakeholders through tools already available with which managers and professionals are familiar, is necessary if we really want to improve vaccination coverage in patients at risk.

As concrete proposals, it is suggested that new documents be created, or existing ones updated, related to the care processes of diseases with an indication for vaccination in which vaccines are included as one of the main elements according to the recommendations of the moment (macro-management). At the same time, the involvement of those in charge of hospital services and departments, and their compliance and monitoring through specific indicators, would promote vaccination (meso-management). Finally, continuing with ongoing across-the-board training in vaccinology among healthcare professionals is essential to promote good practices and the appropriateness of vaccines in immunocompromised patients (micro-management).

Improving the health of this group could be achieved with a simple organisational shift.

References

- Mora-Zamorano E, Hernández-Barrera V, Jiménez-Trujillo I, Zamorano-León JJ, Jiménez-García R. Decreasing influenza vaccine coverage among adults with high-

- risk chronic diseases in Spain from 2014 to 2017. *Hum Vaccin Immunother.* 2019;16:95–9, <http://dx.doi.org/10.1080/21645515.2019.1646577>.
2. Román A. Conceptos y definiciones básicas de la gestión clínica. *Medwave.* 2012;12(5):e5418, <http://dx.doi.org/10.5867/medwave.2012.05.5418>.
 3. Estrategia de vacunación frente a COVID19 en España. Actualización 4. Grupo de Trabajo Técnico de Vacunación COVID-19, de la Ponencia de Programa y Registro de Vacunaciones. Ministerio de Sanidad. 2022. Disponible en: https://www.jcyl.es/junta/cs/COVID-19_Actualizacion4.EstrategiaVacunacion.pdf.
 4. Ministerio de Sanidad. Estrategia de vacunación frente a COVID19 en España. Actualización 5. Grupo de Trabajo Técnico de Vacunación COVID-19, de la Ponencia de Programa y Registro de Vacunaciones. Madrid: Ministerio de Sanidad, 2022. Disponible en: https://www.sanidad.gob.es/profesionales/saludPublica/prevPromocion/vacunaciones/covid19/Actualizaciones_Estrategia_Vacunacion/docs/COVID-19_Actualizacion5_EstrategiaVacinacion.pdf.
 5. Astursalud. Portal de salud del Principado de Asturias. Actualización Programas Clave (PCAIS) Asturias. 2017. Disponible en: <https://www.astursalud.es/categorias/-/categorias/profesionales/01000practica-clinica/02000programas-clave-de-atencion-interdisciplinar-y-guias-clinicas/02000actualizacion-programas-clave-pcais-asturias>.
 6. Consejería de Salud de la Junta de Andalucía. Guía de diseño y mejora continua de procesos asistenciales. Sevilla: Consejería de Salud, 2001. Disponible en: https://www.juntadeandalucia.es/export/drupaljda/salud_5af1956c952f3_guia_diseño_primer.pdf.

Amphotericin B deoxycolate availability in Spain



Disponibilidad de anfotericina B desoxicolato en España

Dear Editor,

With regard to the scientific letter recently published in the journal ENFERMEDADES INFECCIOSAS Y MICROBIOLOGÍA CLÍNICA by Capilla-Miranda et al.,¹ which describes the treatment option with liposomal amphotericin B for fluconazole-resistant *Meyerozyma guilliermondii*cystitis, we would like to present updated information about amphotericin B deoxycolate availability in Spain.

The authors of the letter are right to point out that, in Spain, ever since the withdrawal some years ago of the only amphotericin B deoxycolate product available (Fungizona®), only two lipid forms of this antifungal are currently on the market (Abelcet® and AmBisome®),² which have established themselves as the preferred option when systemic treatment must be considered. Despite that, other clinical scenarios requiring the topical administration of amphotericin B are not uncommon. Because of its physical and chemical properties (water soluble), ease of use (free of lipid particles) and lower cost, amphotericin B deoxycolate has classically been used to prepare different formulations intended for administration by different routes. These include intravesical administration, such as that proposed by Capilla-Miranda et al.,^{1,3} the nebulised treatment or prophylaxis of pulmonary aspergillosis,^{4,5} intraocular injection for cases of fungal eye infection⁶ or other situations that require the local administration of amphotericin B.⁷

Despite the lack of availability in Spain of an amphotericin B deoxycolate medicinal product required by pharmacy departments to correctly formulate this antifungal, we feel it is necessary to qualify the claim made by the authors of the scientific letter regarding the difficulty obtaining this particular antifungal, and would like to share some options for easily acquiring amphotericin B deoxycolate. The first is by compounding, a practice regulated in every Spanish autonomous community through legally established pharmacies for the production of this type of medicinal product,⁸ while the second is through the 'Access to Medicines in Special Sit-

uations' programme run by the Spanish Agency of Medicines and Medical Devices (Agencia Española de Medicamentos y Productos Sanitarios),⁹ which facilitates the importing of amphotericin B deoxycolate marketed in other European countries. This was almost certainly the route used to obtain the medicinal product in the cases published recently in this journal.³ It is currently possible to import the product Amphotericin B® 50 mg (Pharma International, SA).

We feel it is important to update information pertaining to the availability of amphotericin B deoxycolate in Spain in order to facilitate the possibility of considering a series of treatments with this antifungal, through a simpler formulation in different clinical scenarios, with greater clinical experience in several indications and with a significant cost saving.

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References

1. Capilla-Miranda A, Plaza-López D, García-Clemente P, Baquero-Artigao F. Instilaciones vesicales intermitentes con anfotericina B liposomal para el tratamiento de una cistitis por *Meyerozyma guilliermondii* resistente a fluconazol en un adolescente inmunodeprimido. *Enferm Infect Microb Clin.* 2023;41: 253–4.
2. Centro de información online de medicamentos de la AEMPS. Ministerio de Sanidad. Amfotericina [accessed 6 Apr 2023]. Available from: <https://cima.aemps.es/cima/publico/lista.html>.
3. Comes-Escoda A, Villaronga-Flaqué M, Velasco-Arnau E, Esteban E, Pertierria-Cortada À, Noguera-Julian A. Renal fungus balls in neonates and very young infants treated with local amphotericin B deoxycolate: two cases reports and review of the literature. *Enferm Infect Microb Clin (Engl Ed).* <https://doi.org/10.1016/j.eimc.2023.02.003>.
4. Otu AA, Langridge P, Denning DW. An evaluation of nebulised amphotericin B deoxycolate (Fungizone®) for treatment of pulmonary aspergillosis in the UK National Aspergillosis Centre. *Mycoses.* 2019;62:1049–55, <http://dx.doi.org/10.1111/myc.12996>.
5. Brunet K, Martellosio JP, Tewes F, Marchand S, Rammaert B. Inhaled antifungal agents for treatment and prophylaxis of bronchopulmonary invasive mold infections. *Pharmaceutics.* 2022;14:641.
6. Kongwattananon W, Rattanaphong T. Granulomatous panuveitis in disseminated sporotrichosis: case report and review of the literature. *J Ophthalmic Inflamm Infect.* 2023;13:11, <http://dx.doi.org/10.1186/s12348-023-00330-9>.