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## Surveillance of multiresistance: Vancomycin-resistant *Enterococcus* spp.<sup>☆</sup>



## Vigilancia de multirresistentes: *Enterococcus* spp. resistente a vancomicina

Dear Editor:

Multidrug-resistant bacteria are a significant public health problem due to the limited treatment alternatives, their capacity for epidemic spread from colonized individuals and the possibility of horizontal transmission, including the emergence of outbreaks. In 2007, the Sociedad Española de Microbiología Clínica y Enfermedades Infecciosas (Spanish Society of Clinical Microbiology and Infectious Diseases) published a document on surveillance culture of multidrug-resistant organisms relevant in nosocomial infections, which was updated in 2015.<sup>1,2</sup> Each hospital establishes strategies for the active detection of colonization by multidrug-resistant bacteria adapted to local epidemiological characteristics, although a general protocol for this purpose has also been published.<sup>3</sup> Given the low prevalence of vancomycin-resistant enterococcus (VRE) species in Spain and the fact that no strains with this phenotype had been isolated in our hospital, VRE was excluded from our initial surveillance protocol. Data from the European Antimicrobial Resistance Surveillance Network (EARS-Net) from 2014 showed a proportion of 7.9% (95% CI, 6–11%) of vancomycin resistance in invasive strains of *Enterococcus faecium*, with a significant increase between 2011 and 2014. In Spain, the proportion was of 2.4% (95% CI, 1–4%), without significant changes in the 2011–2014 period.<sup>4</sup> These data refer to *Enterococcus faecium* because in this species resistance to glycopeptides is compounded by a high level of resistance to  $\beta$ -lactam agents (infrequent in *Enterococcus faecalis*), which restricts the treatment alternatives even further. The

aim of our study was to describe the corrective modification of our protocol following the isolation of the first strains of VRE. These strains were detected by rectal swab culture in a chromogenic medium (Brilliance™ VRE Agar, Oxoid) with confirmation of their identity and antimicrobial susceptibility testing by broth microdilution (Vitek®2 Compact, bioMérieux) and the E-test (E-test®, Oxoid). We submitted the VRE isolates involved in infection or suspected contagion to the Instituto de Salud Carlos III (ISCIII) for genotyping and investigation of molecular epidemiology. Between 2007 and June 2018, there were 109 cases of bacteraemia due to *Enterococcus* spp. in 102 patients at the Hospital Infantil Niño Jesús of Madrid. Two *E. faecium* isolates (2017) were resistant to vancomycin (*vanA* phenotype). These isolates were obtained 9 days apart from immunosuppressed patients hospitalised in the same room. The minimum inhibitory concentrations (MICs) of teicoplanin in these patients were 32 and 64 mg/L, and the MICs of daptomycin were 2 and 4 mg/L, while the MIC for vancomycin was greater than 256 mg/L for both patients. The genetic profiles of the isolates were identical. The active search of VRE through June 2018 resulted in detection of 8 cases of colonization (in 7 cancer patients and 1 patient with hydrocephalus staying in the PICU). Three of the cases of VRE colonization were detected 8, 16 and 17 days after the identification of the first case of bacteraemia due to VRE in cancer patients hospitalised in the same room as the patients with bacteraemia due to VRE. One isolate corresponded to a strain that was genetically related to the isolates in patients with bacteraemia, and the genetic profile of another colonization isolate was probably also related to the bacteraemia isolates. After the inclusion of VRE in our active surveillance protocol, we found a rate of colonization by VRE of 1% (April 2017–June 2018). There have been no additional outbreaks or cases of colonization since February 2018. The magnitude of the multiple drug resistance phenomenon has compelled major health care facilities to invest in the containment of these organisms through the early detection of carriage status.<sup>5</sup> In line with this, in 2014 the microbiology laboratory of our hospital introduced routine surveillance of the microorganisms with the highest clinical and epidemiological impact (methicillin-resistant *Staphylococcus aureus* and extended-spectrum  $\beta$ -lactamase- or carbapenemase-producing Enterobacteriaceae)<sup>3</sup> in patients likely to have

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a prolonged stay and/or at risk of colonization due to prolonged exposure to broad-spectrum antibiotics, use of invasive medical devices (vascular access lines, catheters, etc.) or immunosuppression. The target patients were oncological patients and patients admitted to the paediatric intensive care unit.<sup>6</sup> The isolation of the first 2 VRE strains required changing or surveillance protocol to include these organisms. This new strategy not only allowed the detection of colonization by VRE, but also its transmission. Since we did not have data on the local prevalence of colonization by VRE, we could not determine whether the source of the spread was the strains involved in the cases of bacteraemia, the strains detected shortly after the modification of the protocol or even strains from other colonized patients whose carriage status would have been unknown because they predated the corrected surveillance protocol. This makes the change to the protocol all the more important, for while data from the EARS-Net and our own experience suggest that the local prevalence of VRE is low, the fact is that we did not know the baseline prevalence of VRE colonization in the population served by our hospital. After the correction to our protocol, we know with certainty that the prevalence is low, although we need to interpret this figure in the context of the containment measures that have been implemented. Our findings highlight the importance of surveillance of multidrug-resistant bacteria, even those with low rates of resistance at the local level, for the purpose of responding efficiently to their dissemination or to possible outbreaks.

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## Use of complementary and alternative medicine in the infant population in the Spanish National Health Survey<sup>☆</sup>



### Utilización de medicina complementaria y alternativa en la población infantil de la Encuesta Nacional de Salud de España

Dear Editor:

Complementary and alternative medicine (CAM), also referred to as “natural therapies”, encompass a heterogeneous group of therapies, practices and products used with

the aim of improving the health and wellbeing of the user and that are not part of conventional medicine.<sup>1</sup> In some countries where their use has a long historical tradition they are known as “traditional medicine”.

The estimates on the use of CAM vary substantially between countries and based on the study design. A systematic review in the European Union found a prevalence of 0.3–86% (Spain, 15–47%).<sup>2</sup> In the United States, the prevalence of its use has been estimated at 38% in adults and 12% in children. The use of CAM is associated with middle age, female sex and a middle-to-high socioeconomic status.<sup>1</sup>

There is considerable diversity in the legislation regulating the use of CAM in countries in the European Union.<sup>3</sup> In Spain, there is no specific national law regulating natural therapies. Nevertheless, Law 16/2003 and Royal Decree 1.277/2003 regulate the safety and quality of health care facilities, and it falls to the authority of autonomous region governments to authorise the opening of non-conventional treatment facilities.<sup>4</sup> Based on this legislation, these facilities should be led by a medical professional.

A situation analysis on natural therapies in Spain assessed 139 therapies used in the country and concluded that the

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