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Antonio Gutiérrez-Pizarra*, José Garnacho-Montero

Unidad Clínica de Cuidados Intensivos, Hospital Universitario Virgen Macarena, Sevilla, Spain

* Corresponding author.

E-mail address: boticarios@gmail.com (A. Gutiérrez-Pizarra).

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Consequences of inappropriate empirical antibiotic therapy depending on the patient's clinical situation*



Las consecuencias de la terapia antibiótica empírica inapropiada en función de la situación clínica del paciente

Dear Editor,

We have carefully read the comments made by Gutiérrez-Pizarra et al.¹ and we agree with the statements made in relation to the importance of the appropriateness of antibiotic treatment administered to critical patients in the emergency department. A great many scientific studies may be found in the literature which corroborate this statement.² What is notable here is that the studies published essentially focus on patients who present with septic shock or severe sepsis.² Since this issue has already been contrasted in the literature, our study design was different.

Our study is innovative³ in that it was conducted on patients who were not so seriously ill, which is a more realistic approximation of events in standard clinical practice in an emergency department (ED) where the infected patient is not usually critically ill. Our sample included patients who required hospitalisation, but did not necessarily present with a severe clinical condition. The number of patients included in our study with severe sepsis or septic shock is small, 54 (14.4%) patients, and among them inappropriate antibiotic treatment was administered to just 9 (16.7%).

This sample design justifies the results found in our study which show that in patient groups without severe conditions, inappropriate treatment will significantly increase hospital stay, leading to increased costs,⁴ but not to an increase in mortality.

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When selecting our empirical prescription we have to mainly take into consideration the following 4 factors: probable microbial aetiology (depending on the infection model, local epidemiology and the patient profile), patterns of sensitivity and local resistance, pharmacokinetic characteristics and pharmacodynamics of the possible antimicrobial agents to be used and the consequences in prognostic terms of possible inappropriateness of the antibiotic on our patient.^{5–7}

Due to the fact that initial inappropriate anti-biotherapy conditions an increase in mortality in severe patients,² international guidelines recommend wide-spectrum antimicrobial agents for this patient profile.⁸ However, the consequences do not appear to be the same in non-critical patients. It is important to know this to develop appropriate anti-biotherapy policies, avoiding the unnecessary prescription of wide-spectrum antimicrobials, which could lead to an increase in the prevalence of resistant strains in our environment.⁷

To conclude, we agree that inappropriate treatment may condition an increase in mortality in the critically ill patient, but that this is not comparable with less serious situations where decision making about the choice of antibiotic treatment may not be of such clinical significance. The problem, on many occasions, is suitable stratification of the gravity of the patient's condition, particularly in populations which are increasingly attended by the ED, as is the case for immune-depressed patients undergoing biological treatments or elderly people where appropriate stratification is more complicated.^{9,6}

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Juan González del Castillo^{a,b,*}, María José Núñez Orantos^c,
Francisco Javier Candel^{b,d}, Francisco Javier Martín-Sánchez^{a,b}

^a *Servicio de Urgencias, Hospital Clínico San Carlos, Madrid, Spain*

^b *Instituto de Investigación Sanitaria del Hospital San Carlos, Madrid, Spain*

^c *Servicio de Medicina Interna, Hospital Clínico San Carlos, Madrid, Spain*

^d *Servicio de Microbiología Clínica, Hospital Clínico San Carlos, Madrid, Spain*

* Corresponding author.

E-mail address: jgonzalezcast@gmail.com (J. González del Castillo).

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