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Reply to “Dual antibiotic therapy for outpatient management of community-acquired pneumonia?”[☆]

Respuesta a «Dual antibiotic therapy for outpatient management of community-acquired pneumonia?»

To the Editor:

One of the most controversial topics in the recommendations and consensus documents on antibiotic treatment in respiratory infections is the choice of outpatient treatment of pneumonia. The debate between monotherapy with a beta-lactam or combination with a macrolide leads to differences of opinion among clinicians, and even among scientific societies.^{1,2} There is some logic to the arguments, and several reasons to justify both approaches in the treatment of mild pneumonia. The first and most important is that no randomized trials with sufficient patient numbers have been conducted in different geographical areas and over long periods that include different seasons, comparing the use of a beta-lactam alone versus the combination of a beta-lactam with a macrolide. The few studies in non-hospitalized patients use mortality as a study variable, which is unhelpful since death rates are very low in this setting, and it is unlikely that significant differences will be detected. Other outcomes, such as therapeutic failure, complications or need for later admission, would be of greater interest. Secondly, because microbiological studies are not performed, there is a shortage of etiological information in mild pneumonia, so the percentage of intracellular microorganisms in which macrolides play an obvious role is unknown. The few studies that use microbiological molecular diagnostic techniques show that the prevalence of these intracellular bacteria, in particular *Legionella pneumophila*, is underestimated. Moreover, in the early stages of infection, urinary antigen testing for *Legionella pneumophila* may give false negatives, and this technique also only recognizes serotype 1. In Spain, *Legionella pneumophila* occurs in up to 6% of cases in the outpatient setting and a beta-lactam monotherapy is insufficient.³ Microbiological point-of-care testing in the outpatient setting that covers a range of bacteria and viruses would be very useful for improving etiological information; however, we are aware that these services are not available in standard practice and conventional microbiological studies are not

recommended in the guidelines. The third factor is the possibility of pneumonia caused by mixed etiologies such as pneumococcus and intracellular bacteria or the possibility of bacteremia in mild pneumonias.⁴ For all these reasons, the therapeutic approach to mild pneumonias should always include a regimen offering complete cover that always includes pneumococcus and intracellular bacteria, in order to reduce the chance of failure. Efforts must be made to avoid continuing the macrolide for more than 3 or 5 days if the response is good.

Horita et al. published a meta-analysis⁵ analyzing the impact of the combination of beta-lactams and macrolides on mortality, but only 3 studies were included in the mild/moderate pneumonia subgroup. This is insufficient to properly address mortality, and the authors recognize the shortage of randomized and observational studies in their paper. Asadi et al.,⁶ in an observational study of 2,845 patients, compared macrolides with quinolones, and found fewer hospital admissions and lower mortality (0.2 vs. 3.0%, $p=0.02$) in the macrolide group. In fact, macrolides have even shown good outcomes in patients with risk factors for pneumococcal resistance.⁷

When the decision has to be made between using fewer antibiotics or offering complete coverage of the most common microorganisms of mild pneumonia, the SEPAR update of the CAP guidelines leans towards the second option. We agree that a very large, well-designed randomized trial may provide an answer to this unresolved issue.

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When the Need is Greater Than Feasible

Cuando la necesidad es mayor de lo factible

Dear Editor:

An unexpected cruel pandemic has been able to paralyze not only our lives but also, somehow, our hopes. Digital transformation in healthcare has become essential to survive, subsist and resist. Huge efforts are made to generate impact and visibility, measured in “likes” or followers; however, we have not been able to work as a “global” system on tools generating value in terms of health among citizens. There are thousands of Smartphones applications available to download but in most cases it is difficult to validate their quality and regulate their content, both mandatory to properly manage patients’ data and achieve adequate dissemination of scientific information.¹

Benefits of pulmonary rehabilitation are well known, not only within chronic processes but also after acute events, such as pneumonia or thoracic surgical procedures. Up to now, the only way to corner the virus is social distancing, and due to person-to-person spread of the virus occurs mainly via respiratory droplets, some respiratory exercises are discouraged without wearing appropriate personal protective equipment.² Thus, some patients have limitations to get access to pulmonary rehabilitation, which could result in suboptimal recovery or even developing pulmonary complications once they are supposed to have overcome COVID-19. In this setting, chances for e-Health tools turn into imperatives, and health community is compelled to provide patients with global and affordable resources transcending social and geographical issues.

A group of Spanish thoracic surgeons and physiotherapists from Hospital Clínic San Carlos in Madrid created Fissios App³ (Fig. 1), a free Smartphone application that guides patients scheduled for

a thoracic surgical procedure through a chest physical exercises program. A series of basic and simple exercises are displayed to teach, from the basic correct position to muscle strengthening techniques or secretion drainage. This method uses animations that show the ranges of movement complemented by a text panel explaining their execution in detail. All of this is meant to be done in a safe and self-sufficient manner. The initial experiences were very satisfactory and were positively evaluated by most of the users through feedback questionnaires.⁴ Several scientific societies have commented on the advantages of respiratory physiotherapy in patients affected by COVID-19, mainly at the time of discharge and those patients with mild symptoms.⁵ At *Fissios App* we continue with our commitment and responsibility by preparing a “COVID-19 section” of the App that allows us to specifically guide all the patients that happily overcome the disease, in a special and instructive way, under the hypothesis that the performance of respiratory physiotherapy exercises may improve their recovery.

Perhaps after all this, at last, the “mutualist” mentality will arrive and we will be able to learn that, if we do not protect the group, individual success will be of little use and that transcendence lies in surviving as a species. Perhaps after all this, it will happen that, for really important issues such as the health of individuals and that of the collective, feasible may exceed needs, and we will thus be permanently prepared to face new challenges.

Conflicts of interest

None.

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Fig. 1. Fissios App Logo.