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Is a viral panel testing worthy in our reality??



¿Vale la pena una prueba de panel viral en nuestra realidad?

Dear Editor,

After reading the article recently published in the journal *Enfermedades Infecciosas y Microbiología Clínica* written by Brotons et al. on the impact of the use of rapid tests for viral detection in patients with acute infection of the lower airways,¹ we have some considerations. First, we observed that it suggests the implementation of a bacteriological panel along with the viral one for a more comprehensive etiological diagnosis.¹ Such need considering the low prevalence of co-infections and secondary bacterial infections in viral infections² would be an increase in the cost of treating patients, with no real practical benefit. We verify that this is a topic of enormous importance for the pediatric area due to the high prevalence of acute lower airway infections and their potential severity.^{2,3}

Despite the positive results of the viral panel, most patients did not discontinue antibiotic therapy.¹ This fact is worrying, as the harmful effects of the indiscriminate use of antibiotics have been studied for many years, especially in situations where they are not indicated. Such use can increase the risk of bacterial resistance and the cost of hospitalization, as discussed by Wang et al.⁴ and later by Ferronato et al.⁵ Recently, the influence of antibiotic use on the gut microbiota has gained importance, which plays a role in aiding digestion, stimulating and regulating the immune system, and preventing the growth of these pathogens.⁶ The justification on the high use of antibiotics found was due to the high risk and vulnerability of critically ill patients.¹ We must, however, remember that patients in the intensive care unit are under continuous monitoring and strict observation, so in case of clinical and laboratory worsening with suspicion of secondary bacterial infection, antibiotic therapy could be promptly introduced. At this point, the use of a bacteriological panel could become relevant. As pediatricians, we must be aware of the risks of using antibiotics, as well as the low risk of secondary bacterial complications associated with viral agents^{2,7} avoiding as much as possible the indiscriminate use of antibiotic therapy. Further studies like BACON are ongoing to better elucidate the prevalence of respiratory bacterial co-screening in infants and young children with viral lower respiratory tract acute respiratory infection.⁸

The use of the viral panel becomes particularly significant due to the growth of the etiological diagnosis of infections in relation

to conventional tests, as stated in the article.¹ With an accurate etiological diagnosis, we can have a more patient-oriented programming, as we know that despite the similarity of signs and symptoms found; each etiologic agent has a different natural history, as observed by Fretzayas et al.²

The viral agent most frequently associated with acute lower airway infection is RSV,^{1,2} which is an agent with a low rate of secondary bacterial infection, as demonstrated by Randolph et al. that in their analysis, bacterial infection in blood, liquor or urine in babies with RSV bronchiolitis was uncommon, with rates found respectively: 0.6%, 0.6% and 0%. The most prevalent secondary bacterial infection was pneumonia, with a rate of 17.5% in mechanically ventilated patients.⁷ Fretzayas et al. identified a low risk of sepsis in infants hospitalized with bronchiolitis, regardless of the viral agent identified.² Such data show that even in critically ill patients, the need for antibiotic therapy, especially in patients with an identified viral agent, becomes questionable.

In summary, we consider the article of great importance for pediatric practice, but more studies are needed to corroborate its findings, contributing to an epidemiological analysis of lower airway infections in the pediatric age group, as well as more studies that show the risks of secondary bacterial infection associated with viral agents, allowing pediatricians to have more confidence in the suspension or escalating of antimicrobial agents based on viral panel results. We reaffirm, however, our reservation regarding the indication of a bacteriological panel as a routine for critically ill patients, we believe that it should be reserved for cases of worsening or in strong suspicion of bacterial infection on admission.

Conflict of interests

We declare no conflict of interests.

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