Considering crossed serological reactions and much more: the clinical reasoning☆

Considerando las reacciones serológicas cruzadas y mucho más: el criterio clínico

Dear Editor,

The diagnostic process is an continuous challenge in clinical practice. A medical history not only includes a description of current symptoms, but also the relevant epidemiological, social and occupational context and other pertinent information. Far from replacing clinical thinking, the development and refinement of various laboratory support techniques has probably strengthened it. Today more than ever, understanding and correctly interpreting concepts such as *false positive*, *false negative* and *predictive value*, to name but a few, is absolutely vital in medicine. Alluding to the letter submitted by Pellejero et al.[1] about whether clinicians take into account serological cross-reactions, I would like to stress that we should be worried about more than just this. It is important to acknowledge that the diagnostic process is much more complex and includes managing uncertainty, the appropriate use of resources that are always in short supply, and taking into consideration as many elements as possible to establish a certain diagnostic probability.

The considerations raised in the article by Pellejero et al.[1] are reasonable and valid. Nevertheless, some clarifications regarding the clinical scenario in question are required.[2] The female patient had pulmonary sepsis with associated hyperbilirubinaemia. Both her respiratory symptoms and abnormal liver function tests improved rapidly following administration of empirical therapy. As a result, the abnormal liver function tests were interpreted in the context of sepsis. It is difficult to believe that the microorganism that caused the pneumonia was *Bartonella* spp. or *Coxiella burnetii* considering the reported local aetiologies. Moreover, given that the clinical signs and symptoms of Q fever are nonspecific, it is important to note that the patient did not exhibit the characteristic fever curve, headache or retro-orbital pain.[3,4] Therefore, pneumonia should be considered an epiphenomenon in this case.

Q fever is a disease that must be reported in Chile. Several articles have been published about the prevalence of the disease and its seropositivity in Chile. *C. burnetii* infection is more common in men than in women (2.5:1) and its prevalence increases in patients with risk factors such as working with livestock, living in rural areas in close contact with farms and similar, and working as a veterinarian.[4] The patient's characteristics and epidemiology affect the diagnostic process. Our female patient is a homemaker and the seropositivity for *C. burnetii* where she lives is 1.8%, possibly less if adjusted for gender and occupation.[5] Another study reports very low endemicity or even the absence of *C. burnetii* in the area.[6]

Having clarified the epidemiological and clinical characteristics of this case, mention should also be made of the described serological cross-reactions between *C. burnetii* and *Bartonella* spp. The report published two decades ago by Scola et al.[7] shows that cross-reactivity primarily occurs in the chronic phase of the disease and in patients with endocarditis. However, it is important to note that other more recent reports do not concur.[8,9,10]

In short, the discussion about whether *C. burnetii* could have been the microorganism that caused the infection in our patient is most welcome. However, based on the epidemiological, clinical and serological (including titre and technique) data and response to treatment, *Bartonella henselae* is much more likely to be the causative agent than *C. burnetii*. The clinical context will always be a key part of diagnosis, an aspect that allows medicine to continue to be romantically referred to as an art.

Conflict of interest

No conflict of interest.

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