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LETTER TO THE EDITOR

Sonographic diagnosis of pneumonia: it is time to change

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(The Editors do not hold themselves responsible for opinions expressed by correspondents)

To the Editor,

The article written by Ianniello et al¹ is based on the now “traditional” point of view of emergency lung ultrasound (LUS). The article is aligned with a school of thought which has many shortcomings. I think that there are some points to be discussed.

In my view, the inclusion criteria comprising patients from 3 (or 14 months?; in Figure 5) to 16 years determines a selection bias. Community-acquired pneumonia in children has a variety of aspects, probably associated with age.² In infants, air trapping is the most important radiologic sign (Figure 5). The evolution of the patterns ranges from bronchiolitis (Figure 5) until the lobar pneumonia passing through the round pneumonia.²

LUS is superior in recognizing minor subpleural echogenic areas. Usually, focal atelectasis are common enough in infant healthy lungs on CT. It is habitual in patients with bronchiolitis (Figure 5). As Donnelly³ comments about chest X-ray (now it can be translated to LUS): “many

authors have stated that the overinterpretation of the presence of linear densities consistent with subsegmental atelectasis as suspicious for superimposed bacterial pneumonia is one of the more common errors made in pediatric imaging”.

In children, any discrimination consolidations vs atelectasis is often impossible by LUS, but this may be difficult on chest radiographs also, as mixed entities may occur frequently.⁴ At LUS, air bronchograms, fluid bronchograms and air alveolograms can be detected.⁵

It is demonstrated by common experience that B-lines are usual in normal infants. Recently, Soldati⁶ proved that they correlate with physical changes in the superficial lung tissue, which are associated with different conditions such as deflations or interstitial thickening. B-lines are visual artifacts and they cannot be directly interpreted as a sign of interstitial pneumonia.

In conclusion, diagnostic principles of sonographic diagnosis of pneumonia should be critically reviewed.

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