Once More: Light's Criteria Revisited

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Since 1972, Light's criteria have been accepted as the most appropriate diagnostic approach to distinguishing between exudative and transudative pleural effusions. According to Light et al. [1], a pleural fluid is an exudate if it meets the following criteria: pleural protein divided by serum protein >0.5 , pleural fluid LDH divided by serum LDH >0.6 and pleural fluid LDH >200 IU/l ($>2/3$ of normal serum limits). In the past a number of clinical studies critically reassessed the accuracy of Light's criteria. However, almost all reported again on an excellent sensitivity for exudates, near to 100%, whereas a somewhat lower specificity of around 80% was noted [2–5]. In this issue of *Respiration*, Romero et al. once more revisit Light's criteria by comparing and classifying several chemical tests from specimens of blood and pleural fluid in 243 patients with pleural effusions. None of the tests resulted in a higher accuracy than the combination of the classic Light criteria. Therefore the authors conclude that due to their consistency, Light's criteria still remain the standard for distinguishing exudates from transudates. In addition, the authors established that a combination of pleural fluid LDH (>307 IU/l) with pleural cholesterol (>60 mg/dl) nearly meets the sensitivity (96%) and specificity (87%) of Light's criteria. They therefore suggest considering the use of pleural fluid analysis for LDH/cholesterol as an alternative method of distinguishing transudates from exudates. Using this approach, phlebotomy can be avoided and costs may possibly be lower. So far so good. However, as Bartter et al. [6] have recently stated, the time has come

that we should accept the criteria of Light and stop focusing our efforts on the elusive goal of finding an even more perfect technique for separating effusions into exudates and transudates. In fact, it is well known that every chemical analysis, as well as all derived combinations, form only one part of the clinical assessment of pleural effusions, as is true for most of the laboratory tests in clinical medicine. Whatever we measure in pleural fluids, any attempt to obtain results with an accuracy of 100% can only be illusional. For pleural fluid tests in particular there will always remain a certain number of false interpretations due to the fact that in some patients a classic exudate can sometimes be a transudate, and less frequently also a classic transudate may derive from an exudative condition [7]. Working from chemical analysis only, one would probably perform a number of unnecessary and even harmful diagnostic procedures, as may occur, for instance, in patients with congestive heart failure during treatment with diuretics. On the other hand, in a patient with bronchial cancer complicated by an atelectasis, the presence of a transudate may result in diuretic treatment instead of a bronchoscopic exploration. Nevertheless I believe that future diagnostic attempts should focus on parameters for detecting specific etiologies of exudative effusions rather than improving Light's criteria [6]. In the meantime it is strongly recommended to assess the patient's entire condition, and not to rely on pleural fluid analysis exclusively.

References

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