Diagnostic Accuracy of Lactate Dehydrogenase/Adenosine Deaminase Ratio in Differentiating Tuberculous and Parapneumonic Effusions: A Systematic Review

ABSTRACT

Background: Tuberculous pleural effusion (TPE) and parapneumonic effusion (PPE) are often difficult to differentiate owing to the overlapping clinical features. Observational studies demonstrate that the ratio of lactate dehydrogenase to adenosine deaminase (LDH/ADA) is lower in TPE compared to PPE, but integrated analysis is warranted. Methods: We conducted a systematic review to evaluate the diagnostic accuracy of the LDH/ADA ratio in differentiating TPE and PPE. We explored the PubMed and Scopus databases for studies evaluating the LDH/ADA ratio in differentiating TPE and PPE. Results: From a yield of 110 studies, five were included for systematic review. The cutoff value for the LDH/ADA ratio in TPE ranged from <14.2 to <25. The studies demonstrated high heterogeneity, precluding meta-analysis. Quality Assessment of Diagnostic Accuracy Studies Tool 2 assessment revealed a high risk of bias in terms of patient selection and index test. Conclusion: LDH/ADA ratio is a potentially useful parameter to differentiate between TPE and PPE. Based on the limited data, we recommend an LDH/ADA ratio cutoff value of <15 in differentiating TPE and PPE. However, more rigorous studies are needed to further validate this recommendation.