ABSTRACT

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Background: Pleural effusion is the accumulation of excessive pleural fluid above normal volume. Examination of pleural fluid is often required by the clinician to determine transudate-exudate classification. Light’s criteria is the most common gold standard criteria for classifying transudate-exudate. Pleural fluid/serum (pf/s) cholesterol ratio is associated with inflammation that has important implications for clinical and epidemiology and relatively easy, inexpensive and can be done routinely in laboratories.

Aim: To determine diagnostic test accuracy levels of pf/s cholesterol ratio transudate-exudate pleural effusion.

Patients and methods: This study is a diagnostic test with cross-sectional approach, with pleural effusion patients who admitted to respirology department of RSDM Surakarta. Statistical analysis using the Shapiro Wilk ± standard deviation (± SD) for normally distributed variables and median for abnormally distributed variables. Cut-off point pf/s cholesterol ratio using ROC curve which took the most extensive AUC area. Additionally, diagnostic test are measured using 2 point 2 table and sensitivity, specificity, PPV and NPV were account. Statistical analysis was using SPSS, p <0.05.

Results: Total 38 patients were included in this study. Pleural fluid/serum cholesterol ratio had median value transudate 0.09 (0.02-0.32), and median value exudative 0.53 (0.27 to 2.55), p = 0.000 (p <0.05). Based on ROC curve, AUC value was 0.993 with p = 0.000 (p <0.01). Cut-off ratio pf/s cholesterol is 0.310, with OR = 324.0, sensitivity, specificity, PPV and NPV was 94.7%.

Conclusion: Diagnostic test accuracy levels pf/s cholesterol ratio with Light’s criteria as the gold standard provides excellent value in determining transudate-exudate pleural effusion.

Keywords: Pleural effusion, transudate-exudate, Light’s criteria, pleural fluid/serum (pf/s) cholesterol ratio.