

Reviewer 2 v.1

Comments to the Author

## TO THE AUTHORS

The aim of the study was to determine whether separation of the aetiology of pleural effusions containing neutrophils was possible using cytological-energy analysis, and thereby early identification of purulent complications following surgery.

## MAJOR COMMENTS

- How are the sensitivity, specificity and diagnostic efficiency of Lights criteria calculated if the diagnosis is made using those same criteria?
  
- There is no specific description as to how patients were recruited to the study – were these 635 samples randomly or consecutively selected?
  
- No timeframe is specified in relation to the collection of pleural fluid specimens, in particular when post operatively the pleural fluid samples were collected and whether the patient had been diagnosed with a purulent effusion at this point, or even on this sample and how this diagnosis was made.
  
- The results section states that ‘Significantly lower frequency of neutrophils was found in the pleural effusions of patients without purulent inflammation after chest surgery’. Where does this appear in the statistical analysis.
  
- In the results section the authors state that ‘We found the high diagnostic efficiency of high glucose concentrations and low lactate and LDH catalytic activity concentrations in patients with transudative pleural effusions.’ This is not a novel finding.
  
- In the discussion it is stated that there was a confirmed correlation between KEB values and concentrations of LDH and AST in pleural effusions – what is the benefit then of doing the KEB over and above these investigations?
  
- Would combining KEB, LDH and AST results improve the diagnostic efficiency?
  
- What is the cost and time entailed in performing the KEB? What is the reproducibility?

- It would be preferable for a validation cohort of patient samples be analyzed to assess the ability of the KEB results to group the patients accurately according to results.

- There is no discussion as to the clinical relevance of the findings.

#### MINOR COMMENTS

- Page 3, line 28 – ‘phagocyte’ should likely be ‘phagocytose’

- Page 3, line 30 – ‘we can find them’ should likely read ‘they can be found’

- Page 10, line 19 – ‘excellent’ should likely be changed