

## Pleural fluid IL-8 as an inflammatory mediator for discriminating transudates and exudates

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The differential diagnosis of pleural effusion is a frequent clinical problem. The possible role of pleural fluid cytokines in discriminating transudates from exudates has not been studied adequately. The aim of this study was to evaluate serum and pleural fluid levels of interleukin-8 (IL-8) and compare it with common biochemical parameters such as total protein lactate dehydrogenase (LDH). Forty patients with pleural effusion were studied. IL-8 was measured simultaneously in serum and pleural fluid using a commercially available ELISA kit. Standard laboratory methods were employed for biochemical parameters. Serum IL-8 levels were higher in the exudative group (8.1 +/- 0.2), but without statistical difference, when compared with transudate patients (6.8 +/- 0.1) ( $p > 0.05$ ). Pleural IL-8 levels were significantly increased in exudate effusion when compared with transudate (26.6 +/- 3.7, 7.1 +/- 0.04 respectively,  $p < 0.001$ ). In addition, a significant difference was found between pleural IL-8 in the malignant group (28.2 +/- 4.4) in comparison with the tuberculous group (21.1 +/- 2.9) ( $p < 0.01$ ). Using ROC analysis, a pleural IL-8 cut off level of 19.7 pg/ml was found the best discriminating ratio in distinguishing exudates from transudates, with sensitivity of 100%, low specificity (from 50 to 66.7%) and good PPV (from 94.4 to 94.7%). Regarding pleural protein, the best discriminating value was 3 g/dl, while that for LDH was 200 IU/L. It is concluded that IL-8 could be considered as a sensitive, but not specific marker in differentiating pleural effusion into exudate and transudate, specially when used together with other criteria such as protein and LDH levels.