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Title: Potential role of total antioxidant status ratio in differential diagnosis of pleural effusion

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Body: There is various data in literature on the connection of pulmonary diseases with oxidative stress, only a few papers have been published on the role of antioxidative system and its activity in cases of pleural pathologies. Investigations have shown that in parapneumonic effusions the level of some antioxidants is higher than in transudates, malignant or tuberculous exudates. Their level increases even more in cases of empyema and complicated parapneumonic effusions. The aim of the study was to evaluate the possible use of total antioxidant status (TAS) pleural fluid/serum ratio. 73 patients were enrolled in the study, 17 had transudate, 37 malignant and 19 inflammatory effusions. TAS was measured both in serum and pleural fluid by Randox©TAS kit. Results: statistical analysis was done using ANOVA programme with Post HOC test (Bonferoni). TAS ratio correlated significantly with Light's criteria. Mean pleural fluid/serum ratio was the highest in cases of inflammatory effusions, the lowest in trasudates. TAS ratio mean value of transudates statistically significantly differ from inflammatory effusions (p=0.02) while the difference between the other groups was not statistically significant. Conclusion: TAS ratio can be used to distinguish transudates from inflammatory effusions. Further investigations are necessary to precise the role of antioxidants and oxidative stress in cases of pleural effusions.