Evaluation of diagnostic value of pleural fluid N-terminal pro brain natriuretic peptide in cardiac origin

Abstract:

Introduction:

Pleural effusion is a common finding in patients. To diagnose pleural effusion since long is used Light criteria for distinguishing transudative from exudative fluid. Light criteria sensitivity is very high to determine exudative fluid (98%). However, the power of these criteria is low for ruling out transudative effusions. For this reason, this study is an attempt to determine level of NTproBNP in pleural fluid.

Materials and Methods:

This study was descriptive-analytic and was carried out on 21 patients with complaints of shortness of breath and diagnosis of pleural effusion. In these patients, pleural fluid was tapped and the following tests were performed: LDH, total protein, albumin, cell count, cell differentiation, cytology for malignant cells, ADA, smear for AFB, gram smear and culture. The results of all experiments were entered into the questionnaire made before the study, and finally the data was analysed using SPSS V16.

Results:

This study included 21 patients with a mean age of 65 years, male and female percentage is 52.4, 47.6, respectively. The patients were diagnosed as CHF (33.3%), TB (28.5%), malignancy (19.4%), hydatid (4.76%) and others left without diagnosis. The exudative and transudative pleural fluid were 66.7 and 33.3%, respectively. In this study, the levels of NTproBNP in serum and pleural fluid of CHF were 11288.42 and 11036.81, respectively, in addition, the levels of NTproBNP in serum and pleural fluid in malignant patient were 1721.68 and 713.59, respectively, and the levels of NTproBNP in serum and pleural fluid in TB patient were 2429.30 and 2810.08, respectively. Also, there was no significant difference between transudativity and exudativity of fluid using the levels of NT-proBNP in serum and pleural effusion but the level of NT-proBNP was significantly higher in CHF patients compared to above-mentioned diseases.

Conclusion:

The results showed that the levels of NTproBNP in serum and pleural fluid of cardiac patients are higher than other patients, but no significant difference was found between transudativity and exudativity of pleural effusion using NTproBNP.

Key Words: Pleural Effusion, Transudate, Exudate.