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Relation between positive bronchodilator reversibility testing and positive bronchoprovocative methacholine challenge testing in suspected asthma patients

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Objective: The study aims to present the relation between positive bronchodilator reversibility testing (BDT) and positive bronchoprovocative methacholine challenge testing (BPT) in 109 patients that were diagnosed under the suspicion of asthma, but with normal basal spirometry, in period between 2012. and 2014. in Outpatient Centre for Respiratory Diseases in Zagreb.

Methods: Spirometry with a bronchodilator test with salbutamol and bronchoprovocative methacholine challenge test were performed in all patients.

Results: Out of 109 patients, 36 were male (33 %), the number of smokers was 16 (15%). The average value of basal FEV1 expressed as median with range was 102 percent of predicted values (80-140). The frequency of positive BPT was diagnosed in 53 out of 109 cases (49 %). The frequency of positive BDT was diagnosed in 23 out of 109 cases (21 %). In 41 cases of positive methacholine challenge tests (77%) BDT were negative and in 12 cases (23%) BDT were positive. Out of 23 positive BDT only in 12 patients (52%) were found positive methacholine challenge tests and in 11 patients (48%) were found negative. In 45 cases (41%) with suspected asthma symptoms BPT and BDT were both negative. The frequency of positive BDT and BPT in different age categories didn't show a significant relationship, although the trend was observed for BDT with higher frequency in older age groups.

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Conclusion: Observed differences in BDT and BPT in cases of suspected asthma and its clinical implications indicate the need for further research in a larger number of subjects.