Abstract:

BACKGROUND: National guidelines advice self measurement of peak flow variability as a diagnostic tool for asthma. However, its actual value for this purpose remains controversial. PATIENTS AND METHODS: 219 persons were recruited by 14 general practitioners after they presented themselves for the first time with symptoms suspicious of obstructive airway disease. They were asked to measure and record peak expiratory flow (PEF) three times daily for two weeks. PEF variability was calculated with three different indices and compared to the post bronchodilator FEV (1) response or methacholine inhalation challenge. RESULTS: 132 (60.3 %) patients completed the peak flow diary. 60 (45.5 %) of them were found to have asthma. But the sensitivity, specificity and predictive values of PEF variability were low. The number of daily measurements did not enhance diagnostic accuracy. Variation of the cut-off value (PEF variability> 25 %) increased the probability for asthma to 77.8 %. However, only one out of six had PEF variability> 25 %. None of the three methods sufficed to rule out asthma. CONCLUSION: The diagnostic accuracy of PEF variability was low. Thus, in case of inconclusive spirometric results in general practice bronchial provocation remains an essential tool for diagnosing asthma. Diagnostic algorithms, as recommended by national guidelines, should be reconsidered in relation to
the diagnostic value of peak flow variability.