

MEETING ABSTRACT

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Asthma diagnosis and treatment – 1002. FEF25-75%: a more sensitive indicator in the early detection of asthma

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Background

Spirometry is widely regarded as a clinically invaluable measurement method that is of genuine recommend for the diagnosis and management of asthmatic patients. FEV-1 and FEV1/FVC are vastly perceived as asthma severity and control assessment indices, according to the present clinical guidelines. Since FEV-1 index is chiefly within normal ranges even in the most severe cases, the certain criteria for asthma diagnosis is immensely base upon it's significant alteration after bronchodilator challenge test . FEF25-75% represents a well-established indicator of small airway disease now for decades, however, and It has been demonstrated that asthmatic patients do have remarkably lower FEF25-75%. Additionally FEF 25-75% meaningful response to the bronchodilator challenge test is seen in some asthmatics that are healthy in terms of other prognostic parameters.

Objective

This study was designed to detect the most sensitive index for the diagnosis of asthma and to determine the correlation between FEV-1 and FEF25-75% indices and asthma control questionnaire (ACQ) scores.

Methods

We recruited 107 patients with the diagnosis of asthma who were attending follow-up sessions at the Children's Medical Center Hospital (CMCH) between December 1, 2010 and May 31, 2012 to conduct a hospital- based study. A p value if <0.05 was considered to be clinically significant to our study.

Results

FEF25-75% Response proved to be more sensitive in detection of asthma in comparison to FEV-1 Response as shown in our study ($p= 0.042$). Nevertheless, Pre-bronchodilator FEF 25-75% does not follow this trend, compared to Pre-bronchodilator FEV-1 ($p = 0.69$). FEF 25-75% Response and ACQ score were significantly correlated ($p= 0.01$) while this is not the case between FEV-1 Response and ACQ score ($p= 0.46$). Moreover, Pre-bronchodilator FEF 25-75 had a meaningful relationship with ACQ score ($p= 0.03$), as opposed to the pre-bronchodilator FEV-1 in which no significant correlation was seemingly spotted ($p= 0.17$).

Conclusions

FEF25-75 % provides a more sensitive way to assess the early detection, severity and progression of asthma, contrary to the conventional FEV-1 index that currently constitutes the only certain clinical criteria to fulfill this role.

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