

**CORRELATION BETWEEN BRONCHIAL
HYPERREACTIVITY AND EXERCISE INDUCED
BRONCHOSPASM IN ASTHMATIC PATIENTS.**

THESIS FOR THE PARTIAL FULLFILMENT OF THE M.D
DEGREE IN THE CHEST DISEASES.

INVESTIGATOR

ASSEM FOUAD ELESSAWY

M.B.B.Ch.,M.Sc.

UNDER THE SUPERVISION OF

PROF.MOHAMED KAMAL ELDIN ELSOROUGI

PROFFESOR OF CHEST DISEASES

FACULTY OF MEDICINE- CAIRO UNIVERSITY

PROF.ASHRAF MAHMOUD HATEM

PROFFESOR OF CHEST DISEASES

FACULTY OF MEDICINE- CAIRO UNIVERSITY

Dr. ALAA ELDIN OMAR SHALABY

ASSISTANT PROFFESOR OF CHEST DISEASES

FACULTY OF MEDICINE- CAIRO UNIVERSITY

FACULTY OF MEDICINE

CAIRO UNIVERSITY

2003

Abstract:

The patient who has symptoms consistent with asthma but has normal pulmonary function test results, bronchoprovocation testing remains the only way to make a positive diagnosis of asthma in this setting, since lung function is normal and there is no response to a bronchodilator. This situation is common in mild or well-managed asthma (**Goldstein, et. al., 1994**).

The principal methods of eliciting hyperresponsiveness involve challenge with a pharmacologic agent, exercise, food, or an allergen.

Exercise-induced bronchoconstriction occurs in 70 to 80 percent of patients with current symptomatic asthma (**McFadden and Gilbert 1994**). The magnitude of exercise-induced bronchoconstriction is correlated with the degree of airway hyperresponsiveness (**Anderson, 1989**). Therefore, in many patients with mild, episodic asthma and only mildly increased airway responsiveness, even strenuous exercise does not cause bronchoconstriction

The aim of this work was to compare methacholine and exercise challenge tests as diagnostic tools of bronchial hyperreactivity in bronchial asthma.

This study included 39 atopic asthmatic patients, within normal limit spirometric parameters in which the FEV1 was more than 80% and also the bronchodilator response was checked in all patients.

Patients were classified into 4 groups according to the results of the tests. Group (1) 18 patient's with positive both tests, group (2) 6 patient's with positive methacholine tests. Group (3) 8 patients with positive methacholine tests and group (4) 7 patients with negative both tests.

The results of this thesis show that both methacholine challenge and exercise testing are effective bronchoconstrictor stimuli in asthmatic subjects. The exercise challenge test is a little bit more sensitive than methacholine challenge in detection of bronchial hyperreactivity in asthmatic patients.

Although both pharmacological and exercise challenge tests were found to be an adequate screening test for airway hyperreactivity, still there is a sector of asthmatic patients, could not be picked up by both tests.

Key words: bronchial asthma, hyperreactivity, exercise, methacholine, challenge test.