METHACHOLINE CHALLENGE TESTING

This Test Can Harm Chemically Injured Lungs

A **harmful test** used for lung function analysis that can exacerbate chemically injured patients is methacholine challenge.

Methacholine is a respiratory irritant. Its use in reactive airway disease can result in false diagnosis (of no lower airway problem) and/or prolonged exacerbation of reactive airway disease. It is thus medically contraindicated in patients with reactive airway disease (who by definition are worsened by breathing irritants) such as chemical injury patients.

Serious Side Effects Can Occur

Severe bronchoconstriction (closing of bronchial tubes) can occur with methacholine.[1] Medical instructions have long stated that this test should not be used for patients with clinically apparent asthma.[1] Headache, throat irritation, itching and lightheadedness have been reported.[1] This test can also cause vasoconstriction with coronary spasm.[2]

This Test Is Not Medically Needed for Chemical Injury

Methacholine is a substance used to diagnose conventional allergic (IgE) asthma. It was not developed to diagnose reactive airway disease, which has a completely different physiologic mechanism: neurogenic inflammation.

Allergic asthma has symptoms of itching, sneezing or even eczema. Chemical injury has symptoms of burning, rawness and stinging irritation. These can be separated if your health provider just takes a proper medical history. Diagnosis of asthma is usually made from a combination of history, physical exam, lung function testing and response to asthma Rx.[1]

This Test is Not Reliable For Reactive Airway Disease (RADS)

The methacholine challenge has been found to be not a reliable predictor of airway hyperactivity (study of non-smoking persons with airway hyperactivity to irritants.)[3] Its value is also unscientific, as it does not show correlation with patients who react to scented products, etc.[1] Methacholine test results often change over time in the same patient[4] and are not a good predictor of respiratory symptoms.[5]

Safer Evaluation Means Are Available

Cold air challenge is sometimes used, but to avoid exacerbation of irritant effects and achieve optimal validity, use of the Robert Wood Johnson epidemiologic survey is preferred.[6] his has been validated to distinguish between irritant asthma and healthy controls.[6] Comparing your peak flow when you are and are not exposed to irritants is a scientifically accepted tool and often used by occupational medicine physicians and informed pulmonoligists. [6 7 8 9 10]

Methacholine stimulates smooth muscle in the gastrointestinal, respiratory, and urinary tracts. It is contraindicated in asthma and can cause an asthma attack.[11]

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[5] Marked as "Supplemental Health History" on Grace Ziem Aug, 2001 and as described in more detail by H Kipen. HM Kipen, etal "Measuring chemical sensitivity prevalence: A questionnaire for population studies" Am J Public Health 85:574-577, 1995.
[6] T Phillips, "The forced expiratory flow and the peak expiratory flow rate in pneumoconiosis", Brit J Dis Chest, 60: 197-199, 1966.
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[11] Goodman and Gilman's, The Pharmacologic Basis of Therapeutics, McGraw-Hill, 2006.