Chest Heart Journal
Vol. 46, No. 1, January 2022

EDITORIAL

Reactive Airways Dysfunction Syndrome and Irritant –Induced Asthma

Md. Khairul Anam

[Chest Heart J. 2022; 46(1) : 1-2]
DOI: http://dx.doi.org/10.33316/chab.j.v46i1.2019644

Reactive airways dysfunction syndrome (RADS) and irritant-induced asthma (IIA) are closely related forms of asthma that result from a single exposure to a high concentration of irritant agents or repeated exposure to moderate to low doses of irritant agents[1].

Irritant-induced asthma is a general term to describe an asthmatic syndrome that results from single or multiple exposures to irritant products that induce bronchial hyperresponsiveness. When symptoms promptly follow a single high-dose exposure to a corrosive gas, vapor or fume, the syndrome is called reactive airways dysfunction syndrome [2].

Acute symptoms associated with RADS include a rapid onset of a burning sensation in the throat and nose, chest pain, dyspnea, cough and wheeze. In IIA, the symptoms are similar, but the onset is less acute than with RADS.

The diagnosis of RADS requires the combination of exposure to a high-dose of an inhalational irritant, onset of symptoms within hours (rarely days), and evidence of reversible airflow limitation (eg, spirometry with bronchodilator reversibility or positive non-specific bronchoprovocation challenge), although a restrictive defect can also be present. A chest radiograph is often obtained to exclude other causes of dyspnea.

The diagnosis of IIA is based upon a history of single or multiple exposures to an irritating inhalational agent, the presence of asthma-like symptoms, and the presence of reversible airway obstruction and/or hyperresponsiveness.

For patients who present with the acute onset of RADS, treatment approach is same used as for acute asthma exacerbations in other settings, including oral glucocorticoids and high dose inhaled glucocorticoids with or without concomitant long-acting inhaled beta-2 agonist [3]. High dose inhaled glucocorticoids are often needed to control symptoms. Inhaled rather than oral glucocorticoids are appropriate initial therapy for patients who present with less severe symptoms.

For patients with persistent symptoms due to RADS or IIA, it is suggested to follow the step-wise approach used in asthma management. In addition, patients are advised to avoid respiratory irritants, including cigarette smoke, and allergens to which they are sensitive.

In general, workers with RADS or IIA are able to return to their working environment with appropriate asthma treatment and safety measures to prevent further high dose exposures. The worker should have ongoing monitoring to detect any deterioration in respiratory status.

The majority of patients with RADS and IIA improve over time, although many continue to have some respiratory symptoms for at least a year and have physiologic abnormalities such as non-specific bronchial hyperresponsiveness for several years.

Dr. Md. Khairul Anam
Associate Professor
Department of Respiratory Medicine
NIDCH, Mohakhali, Dhaka.
Mob: 01711-846416
E-mail: dr.anam-mk@yahoo.com

Submission on: 2 December, 2021
Accepted for Publication: 18 December, 2021
Available at http.//www.chabjournal.org

Reference

1. Brooks SM, Weiss MA, Bernstein IL. Reactive airways dysfunction syndrome(RADS). Persistent asthma syndrome after high level irritant exposures. Chest 1985; 88:376.
2. Vandenplas O, Wiszniewska M, Raulf M, et al. EAACI position paper: irritant-induced asthma. Allergy 2014; 69:1141.
3. Gautrin D, Boulet LP, Boutet M, et al. Is reactive airways dysfunction syndrome a variant of occupational asthma? J Allergy Clin Immunol 1994; 93:12.