Reactive Airways Dysfunction Syndrome (RADS) among Rescue and Recovery Workers in the World Trade Center Health Registry (WTCHR).

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Introduction: Reactive Airways Dysfunction Syndrome (RADS), also known as irritant induced asthma, is a form of asthma characterized by symptom onset within 24 hours of a high level environmental/occupational exposure. RADS has been documented in World Trade Center (WTC) rescue/recovery workers.
Rationale: To characterize to what extent respiratory symptoms and disease management of RADS differ from other forms of newly diagnosed asthma among rescue/recovery workers enrolled in the WTCHR.
Methods: 18,334 workers enrolled in a longitudinal study of 9/11–related health effects in 2003–04 and completed a follow–up survey in 2006–08. 537 workers reported a diagnosis of RADS after 9/11; another 1595 reported an asthma diagnosis after 9/11. The association of RADS with respiratory symptoms in the past month and indicators of asthma management was studied via Prevalence Odds Ratios (PORs) using non–RADS asthmatics as the referent group.
Results: Workers with RADS were more likely to report shortness of breath [POR = 2.66 (2.00, 3.55)], wheezing [POR= 2.31 (1.82, 2.94)], and persistent cough [POR = 2.55 (2.05, 3.17)] than other newly diagnosed asthmatics. Workers with RADS were also more likely to report use of an inhaler [POR = 4.03 (2.78, 5.85)] or a visit to an emergency room [POR = 1.72 (1.26, 2.34)] in the last 12 months.
Conclusions: 5 – 6 years after 9/11, workers with RADS were more likely to report lower respiratory symptoms than were other asthmatics. The WTCHR contains one of the largest cohorts of self–reported RADS cases to date. These results suggest that RADS, a diagnosis based on etiology, may be distinguished from non–RADS asthma, based on respiratory symptoms and management. This large longitudinal cohort is a valuable resource for further clarification of the asthma spectrum.

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