

Long-term right ventricular changes in mustard-exposed patients: A historical cohort

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Abstract:

Introduction: Mustard gas (MG) is a chemical warfare agent widely used in the Iran-Iraq War. Its catastrophic effects on the lungs, eyes, and skin have been well studied. However, it also affects the cardiovascular system. We aimed to evaluate the long-term effect of MG on right ventricular (RV) function. **Methods:** All patients presenting to the university clinics between May 2014 and September 2015 were consecutively evaluated to enter the study based on the inclusion criteria (documented proof of chemical injury, no past or present cardiovascular disease, not a current smoker, and no history of sleep apnea). A comparable control group of veterans without MG exposure was randomly selected. All patients underwent echocardiographic measurement of RV size and function by a blinded cardiologist. **Results:** We included 23 patients in the MG-exposed group and 19 subjects in the control group, with a mean age of 48.6 years. Mean chemical injury severity score was 29.7% and mean time from the MG exposure was 29.2 years. The main complaint of MG-exposed patients pertained to respiratory symptoms (91%). Pulmonary artery pressure was higher (32.83 vs. 28.95 mmHg) and RV strain was lower (-17.05% vs. -20.72%) in the MG-exposed than in the control group (P

Keywords:

chemical injury; dysfunction; echocardiography; mustard gas; right ventricle

Subjects:

Poisoning

SLID: SL15406

Document Type: Journal Article

Publish Date: 2018

Source Title: Journal of Clinical Ultrasound

Volume: 46

Issue: 2

Pages: 160 - 164

Source Link:

DOI:

<http://dx.doi.org/10.1002/jcu.22539>

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