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Case Report

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Inflammatory statuses of Non-Smoker Mustard Lung Patient candidate for Coronary artery bypass grafting Surgery

Mohammad Ali Sheikhi[1] and Hossein Rahmani[2*]

[1]Assistant Professor of Cardiovascular Surgery MD, Department of Cardiac Surgery, Atherosclerosis Research Center Golestan Hospital, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
[2]Toxicologist, Student Research Committee, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
**Email: r.h1989@yahoo.com*

ABSTRACT

Mustard Gas is one of chemical warfare agent that used in Iraq-Iran War. The first effects of SM are on the epithelial tissues of the eye, the respiratory system and the skin but in chronic phase patients suffer from systemic inflammation due to this exposure. Some of this patient suffer from cardiovascular disease and need to Coronary artery bypass grafting (CABG). Cardiac surgery evocates generalized inflammatory response in all patients and in this patient monitoring inflammatory before surgery is necessary because this mediator in this patients is more higher than other patients and preoperative inflammatory help us to better predict of this patients outcome and better manage on pump CABG.

Keyword: Sulphur Mustard, Mustard Lung, inflammation, CABG

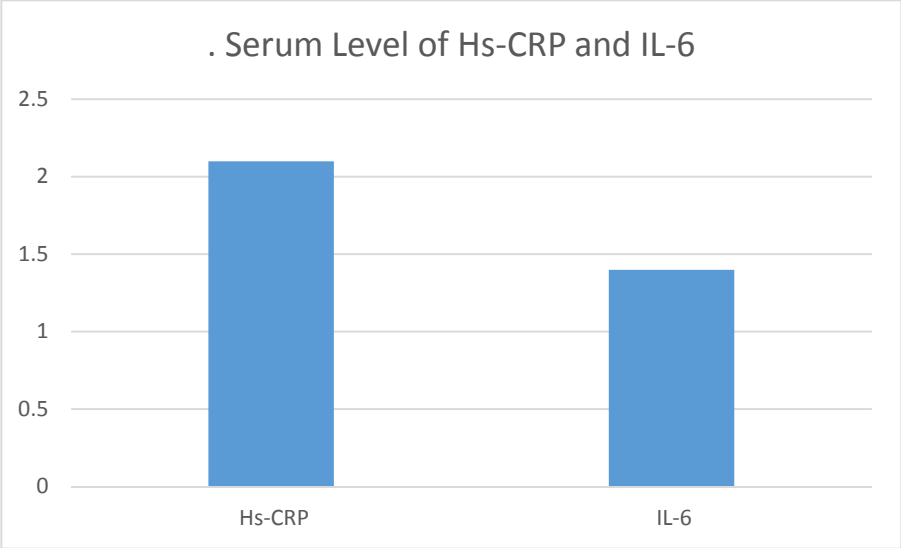
INTRODUCTION

Bis-2(chloroethyl)sulphide [S(CH2CH2Cl)2] is a chemical warfare agent more commonly referred to as mustard gas or sulphur mustard (SM) and used in Iraq-Iran War. The primary effects of SM are on the epithelial tissues of the eye, the respiratory system and the skin [1,2]. One of the old Study on the chronic toxic effects of Mustard gas in 236 Iranian veterans Showed that the most common effects were on the respiratory tract (78%), CNS (45%), skin (41%), and eyes (36%). These effects were reported 2 and 28 months after exposure [3]. After several years patients suffer from respiratory complications of mustard gas or Mustard Lung (ML) Patients showed inflammatory response and systemic inflammations. Some of this patient involve with cardiovascular disease and after many treatment need to Coronary artery bypass grafting (CABG). The background of systemic inflammation in this patient is necessary to remember inflammatory changes during On Pump Coronary artery bypass grafting and need to monitoring inflammatory marker in this patient to detect different between this Chemical Patients and the other patient to reach strategy for better result after Coronary artery bypass grafting surgery.

Case Report:
Patient was male with 60 years old and exposed to Sulphur mustard 30 years before write this report. He had 96 Kg weight and 173 Cm height and A+ Blood group. He suffered from respiratory Complication of Sulphur mustard (Mustard Lung) and candidate for Coronary artery bypass grafting surgery. Before enter to surgery ward, he was examined for inflammatory problems and spirometer for lung function (Table 1 and figure 1). After spirometry and test marker with ELIZA technique we found that inflammatory markers high-sensitivity C-reactive protein (Hs-CRP)(2.1) and interleukin 6 (IL-6)(1.4) was raised (in Comparison with reference range) in this patient and it condition caused need to more attention to effect of pump during Coronary artery bypass grafting Surgery.

Patient Characterization	
Age	60
weight	96
height	173
Blood Group	A+
Spirometry Result	
FEV1	74
FVC	71
FEV1/FVC	73
PEFR	59

Figure 1. Serum Level of Hs-CRP and IL-6



DISCUSSION

Cardiac surgery evocates generalized inflammatory response in all patients with serious clinical results in a minority, despite advances in cardiovascular monitoring, pharmacology, surgical and anesthetic techniques and perfusion technology. It is obviously evident regarding to cardiovascular dysfunction and postoperative pulmonary. Inflammation represents the response of the body to tissue injury and in normal circumstances is a controlled humoral and cellular response that will lead to control of infection and wound healing. In some instances this response may become exaggerated, ultimately leading to additional tissue injury and the development of organ dysfunction [4]. In Mustard Lung Patient due to raised Inflammatory marker, need to manage inflammatory system before surgery and check this markers such as high-sensitivity C-reactive protein (Hs-CRP) and interleukin 6 (IL-6) is necessary to get better predict of outcome and better management of this patients.

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