

external link (opens in a new window)

Search Sources Analytics Alerts My list Settings Live Chat Help Tutorials

Quick Search

Search

Back to results | < Previous 67 of 125 Next >

[Link to Full Text](#) | [View at publisher](#) | [Download](#) | [Export](#) | [Print](#) | [E-mail](#) | [Create bibliography](#) | [Add to My List](#)

International Journal of Dermatology

Volume 45, Issue 9, September 2006, Pages 1025-1031

Delayed complications of sulfur mustard poisoning in the skin and the immune system of Iranian veterans 16-20 years after exposure (Review)

Hefazi, M.^{abc}, Maleki, M.^{abc}, Mahmoudi, M.^{abc}, Tabatabaee, A.^{abc}, Balali-Mood, M.^{abc}^a Department of Dermatology, Imam Reza Hospital, Mashhad 91735-348, Iran^b School of Medicine, Mashad University of Medical Sciences, Mashhad 91735-348, Iran^c Immunology Research Center, Department of Pathology, Ghaem Hospital, Mashad, Iran

Abstract

[View references \(30\)](#)

Background: Extensive cutaneous burns caused by alkylating chemical warfare agent sulfur mustard (SM) have been associated with the severe suppression of the immune system in humans. We aimed to study the association between late cutaneous and immunological complications of SM poisoning. Methods: Skin examination was performed on all SM-poisoned Iranian veterans in the province of Khorasan, Iran, who had significant clinical complications, and their SM intoxication was confirmed by toxicological analysis. Light microscopy was performed on eight skin biopsies. Blood cell counts, serum immunoglobulin and complement factor, as well as flow cytometric, analyses were performed on all the patients. The severity of cutaneous complications were classified into four grades and compared with hematological and immunological parameters, using Spearman's rank correlation test. Results: Forty male subjects, confirmed with SM poisoning 16-20 years earlier, were studied. The main objective findings were hyperpigmentation (55%), dry skin (40%), multiple cherry angiomas (37.5%), atrophy (27.5%), and hypopigmentation (25%). Histopathologic findings were nonspecific and compatible with hyperpigmented old atrophic scars. Except for the hematocrit and C4 levels, hematological and immunological parameters revealed no significant correlation with the severity grades of cutaneous complications. Conclusion: Sulfur mustard is an alkylating agent with prolonged adverse effects on both the skin and the immune system. Although skin is a major transporting system for SM's systemic absorption, there is probably no correlation between the severity of late cutaneous and immunological complications of SM poisoning. © 2006 The International Society of Dermatology.

Reaxys Database Information

Indexed Keywords

EMTREE drug terms: complement component C3; complement component C4; hemoglobin; immunoglobulin A; immunoglobulin E; immunoglobulin G; immunoglobulin M; mustard gas

EMTREE medical terms: adult; aged; clinical article; complement factor; controlled study; correlation coefficient; disease severity; dry skin; erythrocyte count; flow cytometry; hematocrit; histopathology; human; human tissue; hyperpigmentation; hypopigmentation; immunoglobulin blood level; immunopathology; intoxication; Iran; leukocyte count; male; microscopy; review; skin atrophy; skin biopsy; skin hemangioma; skin toxicity; thrombocyte count; toxicological parameters; veteran

MeSH: Adult; Aged; Chemical Warfare Agents; Complement C4; Female; Hematocrit; Humans; Immune System; Immunoglobulins; Iran; Male; Middle Aged; Mustard Gas; Severity of Illness Index; Skin; Skin Diseases; Time Factors; Veterans

Medline is the source for the MeSH terms of this document.

Chemicals and CAS Registry Numbers: complement component C3, 80295-41-6; complement component C4, 80295-48-3, 80295-71-2; hemoglobin, 9008-02-0; immunoglobulin E, 37341-29-0; immunoglobulin G, 97794-27-9; immunoglobulin M, 9007-85-6; mustard gas, 505-60-2; Chemical Warfare Agents; Complement C4; Immunoglobulins; Mustard Gas, 505-60-2

ISSN: 00119059 CODEN: IJDEB Source Type: Journal Original language: English
DOI: 10.1111/j.1365-4632.2006.03020.x PubMed ID: 16961503 Document Type: Review

Cited by since 1996

This article has been cited **25 times** in Scopus:
(Showing the 2 most recent)

Sahebkar, A.
Baicalin as a potentially promising drug for the management of sulfur mustard induced cutaneous complications: A review of molecular mechanisms
(2012) *Cutaneous and Ocular Toxicology*

Panahi, Y., Sarayani, A., Beiraghdar, F.
Management of sulfur mustard-induced chronic pruritus: A review of clinical trials
(2012) *Cutaneous and Ocular Toxicology*

[View details of all 25 citations](#)

Inform me when this document is cited in Scopus:

[Set alert](#) | [Set feed](#)

Related documents

Showing the 2 most relevant related documents
by all shared references:

Balali-Mood, M., Hefazi, M.
The pharmacology, toxicology, and medical treatment of sulphur mustard poisoning
(2005) *Fundamental and Clinical Pharmacology*

Balali-Mood, M., Hefazi, M.
The clinical toxicology of sulfur mustard
(2005) *Archives of Iranian Medicine*

[View all related documents based on all shared references or select the shared references to use](#)

Find more related documents in Scopus based on:

[Authors](#) | [Keywords](#)

More By These Authors

The authors of this article have a total of **156 records** in Scopus:
(Showing 5 most recent)

Timcheh-Hariri, A., Balali-Mood, M., Aryan, E., Sadeghi, M., Riahi-Zanjani, B.

Toxic hepatitis in a group of 20 male body-builders taking dietary supplements
(2012) *Food and Chemical Toxicology*

Maleki, M., Banihashemi, M., Sanjari, V.
Efficacy of suction blister epidermal graft without phototherapy for locally stable and resistant vitiligo

[Add apps](#) | [Help](#)