

# Chronic health effects of sulphur mustard exposure with special reference to Iranian veterans.

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**Abstract:** The widespread use of sulphur mustard (SM) as an incapacitating chemical warfare agent in the past century has proved its long-lasting toxic effects. It may also be used as a chemical terrorist agent. Therefore, all health professionals should have sufficient knowledge and be prepared for any such chemical attack. SM exerts direct toxic effects on the eyes, skin, and respiratory tissue, with subsequent systemic action on the nervous, immunological, haematological, digestive, and reproductive systems. SM is an alkylating agent that affects DNA synthesis, and, thus, delayed complications have been seen since the First World War. Cases of malignancies in the target organs, particularly in haematopoietic, respiratory, and digestive systems, have been reported. Important delayed respiratory complications include chronic bronchitis, bronchiectasis, frequent bronchopneumonia, and pulmonary fibrosis, all of which tend to deteriorate with time. Severe dry skin, delayed keratitis, and reduction of natural killer cells with subsequent increased risk of infections and malignancies are also among the most distressing long-term consequences of SM intoxication. However, despite a lot of research over the past decades on Iranian veterans, there are still major gaps in the SM literature. Immunological and neurological dysfunction, as well as the relationship between SM exposure and mutagenicity, carcinogenicity, and teratogenicity are important fields that require further studies, particularly on Iranian veterans with chronic health effects of SM poisoning. There is also a paucity of information on the medical management of acute and delayed toxic effects of SM poisoning—a subject that greatly challenges health care specialists.

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