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Research Article

Two Surveys about Acneiform Lesions and Cherry Hemangiomasin Veterans Long Term after Their Exposue to Nitrogen Mustard Gas Weapons

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ABSTRACT

Introduction objective : Acneiform lesions can induced by some chemical materials. Chemical gas weapons especially nitrogen mustard used frequently in Iraq-Iran war during 1980-1988 against Iranian troops and many kinds of skin damage caused by them.
Cherry angiamas are other lesions which are normally existing in many peoples especially older ones.

Materials and methods: Two analytical descriptive studies were performed which were following of previous one which was published in 1998, In one of them 145 persons, averagely 22 years after chemical damage were compared with 76 persons as control group in 2007-2008 to observe cherry angiomasexistence. The other study about acneiform lesions which was conducted in 2015-2016: 70 previously chemically damaged veterans averagely 28 years after damage compared with 76 persons as control group.

Results: In the acneiform lesions study the mean age of experimental group was 47.7 and control group 44.9. In the former group 57.1 had no lesions 30% had mild, 12.9% had moderate and no one had sever lesions. they had no significant statistically difference in incidence of these lesions with control group. There was also no significant increase in the severity of these lesion's regarding to their percentage of chemical damage.In other study about cherry hemangimas the mean age of chemically damaged cases was 42.5 and control group was 44.5. In the former group 75 caser (52%) had fewer than 3 lesions as (31%) had $3 \geq >10$ lesions and 26 (18%) had ≥ 10 lesions, which were not statistically different from control group. There was no significant relationship between severity of chemical damage with number of cherry enigmas in chemically damaged persons.

Conclusion: Acneiform lesions and cherry hemangiomas could not be considered as long term side effects in veterans who were exposed to nitrogen mustard gas weapon.

Keywords : Chemical gas weapons, nitrogen mustard, acneiform lesions, cherry hemangioma, chemically damaged

INTRODUCTION:

Acnevulgaristhatis known as youth Acne in many societies can persist in menespecially in the back region until middle age and in women in the face.[1,2,3,11] Many chemicals can cause Acneiformlesions in the people who expose to thechemicals due to their job or the accidents caused by excessive exiting of these materials.[5,11]These materials are Halogenated compounds, especially chlorine, oily compounds and Tar.The lesions of these individuals are usually not unique to their face and can expand in the wider rangeoflesions than Acne Vulgaris in the body.[1,2,3] The lesions are usually more stable and more resistant to the treatment.[5,6,14]Dioxine compounds are of chemicals that are available in some antiseptics and insecticides and it iswell known their effects on producing acne and Acneiformlesions.[5,6,9,11] One of famous examples of poisoning withDioxinewas about Victor Yushchenko,Former Prime Minister of Ukraine, who it had appeared the large Acneiformlesions and GiantComedons in his body before the death.[2]

Cherry hemangiomas or Campbell demorgan sports, is also named Senile hemangiomadue to their extensive presence in theold ages, arein the form of protruding soft red or purplelesions are seen in different number, especially in the trunk and proximal extremities.[1,2,3]It is said that it was also observed the chemicals in the incidence of more than their expectation in previous chemical injured people.[4]

During the former Iran-Iraq war that lasted in 1980-1988 AD (1359-1367), it waswidely used chemical gases, especially during the latter years of the war against Iranian soldiers and other Iranian militias. NitrogenMustardgas was the most commonly used gas.

The history of the gas consumption returns about 100 years ago in the First World War.And it is largely known the side- effects of itstoxoginic, mutagenic and carcinogenic effects.It creates erythema in about 0\1 to 1 mg of the gas perthe square centimeter (cm^2) of skin and it causes bulla and burn with over-dose of about 1 to 4 mg per the square centimeter of skin. The long-term effects of this chemical include thevascular and melanocytic skin disorders as well as atrophic and sclerotic scars after the initial recovery.

In Yasouj, in 2000-2004, in studies that was conducted about 180 chemical injured people about 15 years after they had exposed to these materials, it was not observedsignificant differences in the increase ofAcneiformslesions in them.

MATERIALS AND METHODS

It the study, I conducted two separate descriptive studies on the previous chemical injured people of Iran and Iraq war who routinely referred to Yasuj Dermatology Clinic for periodic examinations and they had a dermatologic examination. Also, some individuals were examined as the control group in the comparable age group.theseindividuals who did not have a history of chemical injury or occupation in chemical industries and workshops related to the chemicalsand had referred to the clinic with other patients and examined bytheirpermission. It had been given some percentages to those who were the previous chemical injured people by according to their primary injury severityby the higher authorities. In the first study, it was compared 145 previous injured individuals, who it had passed an average of about 22 years of their exposure, with 76 ones as the control group during 1378-1388 (HijriShamsi) or 2008-2009 AD. The individuals were divided into 3 groups in terms of injury percentage:<15%,15% ≤ <25% and a group more than 25% (25% ≤). In terms of the number of Cherry hemangioma lesions, they were divided into three groups of without lesion or less than 3 lesions (0-2), the group of 3 ≤ <10 and the group of ≥10 lesions.

The second study that was conducted (performed)on the examination of Acneiform lesions during 1394-1395 (2015-2016),in this study, 70 of previous injured people were selected as the case group and 74 people as the control group and it was about 28 years theaverage time after their exposure with chemical gases. Most of theexaminedindividualsdid not include those who had been included in the previous study during the years (2000-2004 AD) in Yasuj. In terms of the number and the severity of Acneiform lesions, theindividualswere divided into the groups without the involvement,withthe mild involvement with less than 10 Papules and without Pustule and Nodule.

The individuals with the moderate involvement included fewer than 20 Papules or a maximum of 3 pustules and without Nodule and those with the severe involvement were including into a group more than 20 Papules or more than 3 Pustules or at least one Nodule.

The previous chemical injured people were divided into 3 groups: <15,15% ≤ <25% % and 25% ≤.

It was determined the age of the individuals, the exposure time interval, and the percentage ofinjury(chemical injury severity) by the questionnaire and also their records.

These examined peoplewere included with the knowledge and consent of the plan issue in this study.

These studies was analyzed the collected data using SPSS software (statistical package for social science), descriptive indicators and chi-square test.

FINDINGS

In a study that was conducted on the people with Acneiform lesions about the case group, there wasn't significant agedifferencebetween thegroup who were from 43 to 70 years old with an average age of 47.7 years and about the control group from 35 to 61 years old with an average age of 44.9 years. It was also 28 years, the average time after the exposure in the case group. In the group of injured people group, 40people(57.1%) had noAcneiform lesions, 21 ones (30%) had mild lesions (low), 9 ones (12.9%) had moderate lesions and none of them had severe lesions (or high). In the control group, 38 (51.3%) had no lesions, 30 people (40.5%) had the mild Acne (low), 5 ones (6.8%) had the moderate acne and one person (1.3%) had the severe lesions. But there was no the significance difference between the two groups.

About the percentage of injury (severity of chemical damage) and the occurrence of Acneiformlesions, among the 26 people who were less than 15 percent, 9ones (34.6%) had Acneiform lesions.Among the 33 people who had seen the chemical injuryas,15%,< ≤ 25%,1725ones (53%) had Acneiform lesions and among 12 people who had(≥25%) of injury, 4ones (33.3%) had Acneiform lesions.There wasn't statistically foundthe significant difference in the severity of injury and the existence of Acneiform lesions.

In another study that had been conducted about the presence and number of Cherry hemangioma lesions in the chemical injured people, there wasn't thesignificant age difference between the case group from 36 to 72 years old with an average age of 42.5 years and in the control group from 37 to 60 years old with an average age of 44.5 years old.

Among the 145 people of the case group(injured), 75 ones (52%) had less than 3 lesions, 45 ones (31%) had 3≤ < 10 lesions and 26 ones (18%) had ≥10 lesions. In the case of the control group,out of a total of 76 people, 50 ones (65.8%) had>3 lesions, 15 ones (19.7%) had 3≤ < 10 lesions, and 11 ones (14.5%) had ≥10 lesions.

The result of the study showed that there was no significant difference between the two groups.About the relationship between the severity percentage of injury and the presence of Cherry hemangioma lesions, among 33 people from the group less than 15%, 16 ones (48.5%) had less than 3 lesions and 17 ones (52.5%) had equal or more than 3 lesions. Among 64 people with 15%≤ <25%, 29 ones (45.3%) had less than 3 lesions and 35 ones (54.7%) had equal or more than 3 lesions. Among 48 people who had 25% ≤ devastation, 29 ones (60.5%) had less than 3 lesions and 19 ones (39.5%) had equal or more than 3 lesions. There wasn't also obtained the significant difference between these groups.

Number of cherry hemangiomas in veterans (chemically damaged) and control group

		< 3	3 ≤ <10	≥ 10	Total
Group	Veterans	75 (52%)	45 (31%)	25 (18%)	145
	Control	50 (65.8%)	15 (19.7%)	11 (14.5%)	76
Total		125	60	36	221

Relationship of chemical damage percentage and number of cherry angiomas

		Less than 15%	15%-25%	≥ 25 %	Total
Number	Less than 3	16 (48.5%)	29 (45.3%)	29 (60.5%)	74
	3 ≤ lesions	17 (51.5%)	35 (54.7%)	19 (39.5%)	71
Total		33	64	48	145

Incidence of acneitorm lesions in veterans (chemically damaged) and control group

		No	Mild	Moderate	Sever	Total
Group	Veterans	40 (57.1%)	21 (30%)	9 (12.5%)	0	70
	Control	38 (51.3%)	30 (40.5%)	5 (6.8%)	1 (1.3%)	74

Total		78	51	14	1	144

Existance of acneiform lesions according to percentage of damage

		Less than 15%	15%-25%	≥ 25 %	Total
Lesions	Without	17(65.4%)	15(47%)	8(66.7%)	40
	With	9 (34.6%)	17 (53%)	4 (33.3%)	30
Total		26	32	12	70

DISCUSSION AND CONCLUSION

Chemical injuries including the exposure to gases such as Nitrogen Mustard and Sarinegas can causethe different short-term skinside-effects and long-term skin ones in fewer cases. As previously mentioned,Acneiform lesions result from the long-term exposure to some chemicals.

In a study that had been conducted on previous chemical injured people in Kerman (Iran), there was not found a significant increase in the incidence of Acneiformlesions.[16] In another study, which was conducted by Ghaffarian and meinthe comparison of 180 chemical injured people that it had passedon average 15 years after exposing them to these materials with 40 people in the control group in Yasouj between 1379- 1383 (2000-2004), there wasn't foundasignificant increase in the incidence of these lesions.[15]

In the next study that was conductedabout 70 chemical injured people who it had passed on average about 28 years after their exposure to chemicals in compared to 74 people in the control group in 1394-1395 (2014-2016), this difference was also not seen. In addition, the people of the recent study did not necessarily includethe previous group. Therefore, this study is in favor of the fact that Acneiform lesions are not of a long-term demonstrations of exposure to chemical warfare gases, especially Nitrogen Mustrard.

It has been mentioned about a positive relationship between the incidence of Cherry hemangioma lesions and chemical substances, especially in some sources.[3,4] In a study conducted in Iran, itwas reported an increase in the incidence of these lesions in the chemical injured people. But in this study, which was conducted on the people who ithad passed on average 22 years of their exposure to these materials, especially Nitrogen Mustrard over the years 1387-1389 (2008-2009), it was not found the increase in the number of these lesions in comparison with the control group. Therefore, according to this study, Cherry hemangiomacannot be mentioned as the serotinousside-effects of exposure to chemical gases.

In the case of these surveys,It should be noted some limitations. One is that it is long the time interval after the exposure time until the time of people examination. Another is that it may not be perfectly standard the percentage of chemical injury that is considered to the target group. Also because of thatNitrogen Mustrard gas hasn't been used after the First World War until the war between Iran and Iraqso much, there are a few sources about the long-term skin effects of this chemical.

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