EVALUATION OF SCORPION STING INCIDENCE IN ALKUFRA CITY DURING 1993 AND 1994

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Abstract: Libya is almost desert or semi-desert. Scorpion fauna is widely diversity in the country. However, scorpion in many places are not medical important especially around the coastal area. Meanwhile, scorpion species in desert are almost accounted as a first health problem related to animal toxin. Scorpion stings are ancient hazards. Alkufra is a small city in east south of Libya in boarders with Egypt, Sudan and Chad. The most common scorpion genuses in Alkufra city are Leiurus sp, Androctonus sp. In this study, we evaluated the scorpion sting in Alkufra during 1993 and 1994. The total scorpion sting cases were admitted to Atiya Alkashh hospital and to clinical around Alkufra city were 2091 cases (50.5% in 1993 and 49.5% in 1994) with 8 deaths (2 deaths in 1993 and 6 deaths 1994). Death cases were recorded among children less than 15 years old. However, no mortality among adult has been observed. Monthly, the high sting cases during summer time especially June and July. The highest sting cases were 20.1% in July and 21.2% in June during 1993 and 1994 respectively. Meanwhile, the low sting cases during winter especially in December and January. The lowest sting cases were in 0.75% and 0.19% in January during 1993 and 1994 respectively. These findings highlight the hazardous effects of scorpion stings in Alkufra, and provide beneficial information that can be used in health education and future research studies for the prevention of scorpion sting cases.

Keywords: Scorpion, Sting, Leiurus sp, Androctonus sp, Alkufra city, Libya

INTRODUCTION

Scorpion found in all places around Libya. However, only desert scorpion considered to be among health problem. Scorpion in coastal and semi-desert area not as dangerous as desert species to human. Species in Alkufra city is lethal to children and very painful to adult. It is ancient serious problem which causes many deaths to children. However, by experiences people learn how to avoid these organisms and treat the scorpion sting as soon as has been observed. Scorpion anti-venom has reduced the mortality to zero, since 2000 in Alkufra city.

The scorpion stings are responsible for significant morbidity and pedestrian mortality in many parts of the Middle East, Central and South America, Asia and northern and southern Africa (Groshong, 1993; Freire et al., 1994; Ismail, 1994; Dehesa-Davila and Possani, 1994; Bergman, 1997; Abrough et al., 1999; Ghalim et al., 2000). Scorpion stings are amongst public health problems in many countries including Tunisia (Mounir et al., 2008), Morroco (Ghalim et al., 2000), (Dehesa-Davila and Possani, 1994) Saudi Arabia (El Amin and Berair, 1995; Saulat J, et al., 2007), Iran (A. Jalali et al., 2010), Israel (Gueron, M. and Yarom, 1970), Brazil (Campos et al., 1980) Venezuela (Carmen et al., 1997) and India (Bawaskar et al., 1991), and many other countries around the world. Scorpion sting is a hazardous and potentially lethal condition. By this primary study which highlight the hazardous effects of scorpion stings in Alkufra.

MATERIALS AND METHODS

Alkufra is a small city in deep Sahara Desert area of east south Libya, located between 24°11’N 23°17’E. The major axis is 50 km, the minor 20 km long. It is bordered by hills which are at most 100 m high. The soil consists of red marl or sand and in the lowest parts there are salt lakes or dried salines.

In this survey study a total of 2091 scorpion sting cases were admitted to hospital Atiya Alkashsh and clinical around Alkufra city during two years (1993 to 1994).

RESULTS

The two most venomous species in Alkufra city appear to be Leiurus sp and Androctonus sp of the family Buthidae. They are more commonly in Alkufra city known as the yellow scorpion. However, no observation indicate black scorpion in the place. A total of 2671 scorpion sting cases were admitted to hospital Atiya Alkashsh and clinical around Alkufra city during two years (1993-1994). The higher number of cases was (1056 cases, 50.5%) recorded in 1993 and the lower number was (1035 cases, 49.5%) in 1994.

During the study period, eight death cases were recorded among children less than fifteen years old. Six deaths were in 1994 which mean 0.58% out of 1035 sting cases. Two death cases were recorded which mean 0.19% out of 1056 sting cases during the year 1993.

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The scorpion stings had a higher incidence in the months of June-July during the study years. The highest number of cases incidence monthly, were in June 1994 (220 cases, 21.25%), followed by (212 cases 20.0%) in July 1993. The lowest number was (2 cases; 0.19 %) in January 1994, followed by (8 cases; 0.75%) in January 1993. Sting cases during year seasons, the highest records were during summer (June, July and August) (mean 198, 56%) and (mean 195, 57% in 1993 and 1994 respectively. The second highest season were spring (March, April and May) (mean 84, 24%) in 1993 and (mean 82, 24%) in 1994. Autumn (September, October and November) was third highest season with scorpion stings (mean 60, 17%) in both years. However, winter (December, January and February) was the lowest season with scorpion stings (mean 10, 3%) and (mean 9, 3%) in 1993 and 1994 respectively.

DISCUSSION

The two most venomous species in Alkufra city appear to be Leirurus sp and Androctonus sp of the family Buthidae, these put emphasizes on study of (Soulaymani, 2007) which shown that on North African countries, the genera Androctonus and Buthus are most frequently involved in scorpion stings Androctonus species, which are considered very aggressive to humans, are responsible for the highest envenomation frequency and severity; they are endemic and well adapted to the presence of humans.

Our result shown similarity with (Amir J et al., 2010) who reported that scorpion stings were highest in July during survey study from 1983 to 1987 in Iran as well as in Tunisia study by (Mounir B. et al., 2008) shown that Scorpion envenomation is more frequent in summer; indeed 82.3% of his patients were admitted between June and September. Cases were collected from hospital patients’ files during 13-year (1990–2002). (Soulaymani R, 2007) in Morocco shown the highest number of stings were in July during 2001, 2002, 2003 which indicates that sanitary authorities must reinforce the efforts during the summer period.

Our results did not show the total scorpion stung in the city of the study period, as some people cannot reach the health care easily after scorpion stings, so, those people who unable to reach hospitals treat the stings by traditional ways, and they are missing in our data. Traditional treatment in Alkufra very common including, sucking blood out, tide the arm or leg just upper the sting place to reduce the flowing of toxin in the blood stream, so people usually use this simple methods as first aid.

To summarize, in this survey study, data shown that no death due to scorpion stings on adult was reported during the study period. Death was reported only in children less than 15 years old. Scorpion stings were higher during summer followed by spring and autumn. However, Scorpion stings were lower during winter. We hoped to promote consideration of scientific research on these lethal creatures and provide beneficial information that can be used in health education and future research studies for the prevention of scorpion sting cases.

REFERENCES


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