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PRESENTATION AND COMPLICATIONS OF BURN INJURIES AMONG EPILEPTIC PATIENTS PRESENTING TO BURNS UNIT, LIAQUAT UNIVERSITY HOSPITAL

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ABSTRACT:

BACKGROUND: *Burn injuries among epileptics are very much common. This study examines the hazard of burns among epileptic patients.*
OBJECTIVE: *To assess the frequency and etiology, complications and mortality of burn injuries among epileptic patients.*
METHODOLOGY: *A prospective descriptive evaluation of all burn victims seen in Department of Plastic & Reconstructive Surgery and Burns Unit, Liaquat University Hospital, Jamshoro/Hyderabad, Pakistan was conducted between April 2004 and May 2009. All relative information was collected through annual admission register and patient's treatment files.*
RESULTS: *Fifty Four epileptics were admitted with burn injuries as a result of elliptic seizures. Forty four patients (81.48%) were females and 10 patients (18.51%) were males. All female patients sustained burn injury in kitchen while cooking. The total body surface area (TBSA) burn ranged from 6& to 70%, with a mean of 24.33% TBSA burn. The majority of the injuries were full thickness. The commonest complication observed was contracture in 30 patients (55.55%), wound infection was seen in 16 patients (29.62%). Three patients (5.55%) died during the course of treatment.*
CONCLUSION: *Lack of good understanding and education regarding epilepsy is the most vital hinder that causes difficulties in management of epileptic burn patients. Female epileptics should not enter in kitchen alone, male epileptics should not drive vehicle or operate heavy machinery.*

KEYWORDS: Burns, Scald, Flame Burns, epileptic burns, burn contractures, escharotomy.

INTRODUCTION:

Epileptics make up a group of people who are defenseless to trauma and accidents during seizures, especially patients with generalized epilepsy.[1-3] It has been observed that burns trauma in epileptic patients who are reporting to Burn wards are mostly domestic having third degree facial burn involving vital facial structure.[4]
The association between epileptic seizures and burn injury is quite clear, as the injury starts with a fall and loss of consciousness, followed by convulsions. The relationship between epilepsy and burn trauma is quite obvious, especially in circumstances where epileptic seizures are started in the surrounding area of burn accident.[5] It should also be kept in mind that epileptics are otherwise health persons, and normally without any alarming symbols, it is therefore, there is no protection against falling.
This study was conducted to evaluate the frequency, management and complications of burn injuries among epileptics during a period of five years.

PATIENTS AND METHOD:

This is a prospective descriptive assessment of all burn victims seen in our burn ward between April 2004 and May 2009. All relative information was collected through annual admission register and patient's treatment files. Data was analyzed through SPSS© version 17

RESULTS:

A total of 1575 patients were admitted with burns during the study period. Fifty Four patients were admitted with burn injuries as a result of elliptic seizure, corresponding

to 3.42% of the total admitted patients. Out of these 44 patients (81.48%) were females and 10 patients (18.51%) were males. Forty eight patients (88.88%) were aware of their epilepsy seizures prior to burn injury, 6 patients (11.11%) had first epilepsy seizures.

All 44 female patients (81.84%) sustained burn injury in kitchen, out of these 38 (70.37%) had burn injury while cooking they had seizure attack and fell on fire, 6 (11.11%) were scalded by boiled water. Six male patients (11.11%) had burn injury in home during sleeping when they sustained seizure attack and fell over kerosene lamp. One male patient (1.84%) sustained burn when he had seizure attack and fell over camp fire during his night duty in farm. Three male patients (5.55%) sustained burn injury when they had seizure attack and fell over stove. Flame was the main cause of burn in 48 patients (88.88%), while 6 patients (11.11%) had scald burns Table I. Six patients (11.11%) had history of epileptic seizures for less than five years, while 9 patients (16.66%) had history of epileptic seizures for more than 10 years. Twenty seven patients (50%) did not have the definite episode of epilepsy.

Twenty one patients (38.88%) had sought medical treatment for their seizures. Eight patients (14.81%) were on medications and one (1.84%) was being supervised by a physician. No patient had compliance with prescribed treatment for various reasons, 14 patients (25.92%) were unable to afford the medicines while 6 patients (11.11%) had noncompliance with treatment, or stopped taking medicine once the seizures disappeared for sometime.

The total body surface area (TBSA) burn ranged from 6-70%, with a mean of 24.33% TBSA burns. The majority of the injuries were full thickness. The patients were managed with escharectomy and split thickness skin grafting. Two patients had amputations of their right hand fingers due to mummification. Both upper and lower eyelid ectropion was released in 12 patients (22.22%) and defect was covered with full thickness skin graft. Axillary contractures were released with opposite running YV-plasty and M-V plasty in 3 patients (5.55%), 5-flap Z-plasty was used release the contracture of antecubital fossa in one patient (1.85%). Four patients (7.40%) had commissuroplasty. The patients and their attendants were all counseled about their medical problems and appropriate medications were commenced Table II.

The commonest complication observed was recurrent contracture in 30 patients (55.55%), wound infection was seen in 16 patients (29.62%), and Amputation of digits was performed in 2 patients (3.70%). Three patients (5.55%) died, out of them one female patient died due to anesthesia complication, she was shifted to Intensive care unit immediately but couldn't survived Table III.

TABLE I

Types of Burns

Type of Burns	Males Number of patients (%)	Females Number of patients (%)
Flame	10 (18.51%)	38 (70.37%)
Scald	0	6 (11.11%)

Table II

Procedures performed

Procedure	Number of Patients (%)
Escharectomy	7 (12.96%)
Amputations	2 (3.70%)
Ectropion	12 (22.22%)
Axillary contractures	3 (5.55%)
Commissuroplasty	4(7.40%)

Table III

Complications observed in epileptic burn patients

Complications	Number of patients (%)
Recurrent contracture	30 (55.55%)
wound infection	16 (29.62%)
Mortality	3(5.55%)

DISCUSSION:

Epileptics are at risk of sustaining a burn injury, especially epileptic females working in kitchen.[1-6] This study accounts 54 patients who suffered burn injuries secondary to epileptic seizures. Twenty one patients (38.88%) were known epileptics prior to the sustaining burns. Most of patients did not take medicine because of affordability issues and treatment interruption resulted in recurrence of seizure and subsequent burn injury, same issues have been reported in Saudi Arabia.[7] Majority of patients did not seek any medical treatment for their seizures, rest of them took medication for some period of time and once the symptoms subsides they quit it. Similar non compliance issues have been reported by Manktelow.[8] Seizures during sleeping of stimulated by light or sound are common.[9] All females in this study were found to have burn injury in kitchen during epileptic seizure attack and 6 patients (11.11%) had seizure attack during sleeping and they sustained burn injury with kerosene lamp.

Epilepsy is the commonest paroxysmal neurological disorder in Pakistan, as it is in any other country of the world. Patients with epilepsy in Pakistan are not very much stigmatized, but their education and position are affected by this disease.[10] Some uneducated people believe that this disease is caused by evil forces and hence it is not possible to get cured through modern medicines, therefore instead of going to physician they seek advise and help and from local quake or any spiritual icon. This was the case with many of our patients and same has been reported by other authors in African countries like Nigeria.[11]

In such a civilization, there is a social boycott of epileptics because of the belief that the disease is contagious. Some are of opinion that epilepsy is infectious and that they can catch the disease if they come in contact with diseased person. Such a behavior itself explains the extent of the injuries seen in epileptics.

Epileptics are even rejected by their own family and friends; they may lose their life partner or their work and become significantly miserable and socially isolated.[12-

[13] One of our patients who had a seizure attack while catering was divorced by her husband. Mortality in these miserable patients is very high, 3 patients (5.55%) died due to the degree of the wounds in addition to late presentation in our burn ward.

CONCLUSION:

Lack of proper understanding and education regarding epilepsy is the most important setback that causes difficulties in treatment of epileptic burn patients. This situation can be made better if public awareness sessions regarding this disease take place frequently. Epileptic patients and their families should be educated and counseled by medical professionals including primary care physician or local general practitioner and local members of social mobilization team. This will help in improving the compliance with treatment. Female epileptics should not enter in kitchen alone, male epileptics should not drive vehicle or operate heavy machinery. This approach will assist to avert avoidable deformities and reduce mortality as a result of burns sustained by epileptics.

REFERENCES:

1. Spitz M.C: Injuries and death as a consequence of seizures in people with epilepsy. Epilepsia, 39: 904-7, 1998.
2. Sapna CS, Sheeba SL, John J, Thomas SV. Accidents and injuries in people with epilepsy attending a tertiary care center in India. Epileptic Disord. 2008 Dec;10(4):276-81.
3. Spitz M.C.: Severe burns as a consequence of seizures in patients with epilepsy. Epilepsia, 33: 103-7, 1992.
4. Beghi E. Accidents and injuries in patients with epilepsy. Expert Rev Neurother. 2009 Feb;9(2):291-8.
5. Aust M, Guggenheim M, Gohritz A, Künzi W, Handschin A, Vogt P, Giovanoli P. Thermal trauma sustained during epileptic seizures-analysis of 33 cases. Handchir Mikrochir Plast Chir. 2008 Dec;40(6):372-6
6. Ansari Z, Brown K, Carson N. Association of epilepsy and burns - a case control study. Aust Fam Physician. 2008 Jul;37(7):584-9.
7. Al-Quattan M M. Burns in epileptics in Saudi Arabia. Burns, 26: 561-3, 2000.
8. Manktelow A.: Burn injury and management in Liberia. Burns, 16: 432-6, 1990.
9. Beghi E. Accidents and injuries in patients with epilepsy. Expert Rev Neurother. 2009 Feb; 9(2):291-8.
10. Aziz H, Akhtar SW, Hasan KZ. Epilepsy in Pakistan: stigma and psychosocial problems. A population-based epidemiological study. Epilepsia. 1997;38:1069–1073.
11. Mamo Y, Alemu S, Seid E, Tiley C, Prevett M. The problem of epilepsy and its care in rural Ethiopia. Ethiop Med J. 2008 Jul;46(3):267-72.
12. Danesi M.A.: Knowledge, beliefs and attitude of illiterate Nigerians to epilepsy. Nigerian Med. J., 12: 149-54, 1982.
13. Osuntokun B.O.: Management of epilepsy in developing countries. Nigerian Med. J., 1: 1-12, 1979.