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 (11.1%) 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 (11.1%) 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 (5.5%) 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 (11.1%) had scald burns Table I. Six patients (11.1%) 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 subsides they quit it. Similar non compliance issues and treatment interruption resulted in recurrence of seizure and subsequent injury, especially in epileptic females working in kitchen. 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 seek any medical treatment for their seizures, rest of them took medication for epilepsy seizures, but couldn’t survived Table III.

DISCUSSION:

Epileptics are at risk of sustaining a burn injury, especially epileptic females working in kitchen. 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 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. 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.

### Types of Burns

<table>
<thead>
<tr>
<th>Type of Burns</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flame</td>
<td>10 (18.51%)</td>
<td>38 (70.37%)</td>
</tr>
<tr>
<td>Scald</td>
<td>0</td>
<td>6 (11.11%)</td>
</tr>
</tbody>
</table>

### Complications observed in epileptic burn patients

<table>
<thead>
<tr>
<th>Complications</th>
<th>Number of patients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrent contracture</td>
<td>30 (55.55%)</td>
</tr>
<tr>
<td>wound infection</td>
<td>16 (29.62%)</td>
</tr>
<tr>
<td>Mortality</td>
<td>3(5.55%)</td>
</tr>
</tbody>
</table>

### Procedures performed

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Number of Patients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escharectomy</td>
<td>7 (12.96%)</td>
</tr>
<tr>
<td>Amputations</td>
<td>2 (3.70%)</td>
</tr>
<tr>
<td>Ectropion</td>
<td>12 (22.22%)</td>
</tr>
<tr>
<td>Axillary contractures</td>
<td>3 (5.55%)</td>
</tr>
<tr>
<td>Commissuroplasty</td>
<td>4(7.40%)</td>
</tr>
</tbody>
</table>
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: