



HOSPITAL CIVIL DE GUADALAJARA  
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## EPIDEMIOLOGY OF BURNS IN THE PEDIATRIC BURN UNIT HOSPITAL CIVIL JUAN I. MENCHACA (15 YEARS)

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### INTRODUCTION

BURNS REPRESENT A PUBLIC HEALTH PROBLEM WORLDWIDE, CAUSING THOUSANDS OF DEATHS PER YEAR, MOSTLY IN LOW AND MIDDLE-INCOME COUNTRIES. THE PEDIATRIC POPULATION HAS BEEN IDENTIFIED AS A VULNERABLE GROUP, WHICH IS WHY THIS STUDY IS BEING CARRY OUT IN A BURN UNIT IN MEXICO WITH THE PURPOSE OF REVIEWING THE EPIDEMIOLOGICAL CHARACTERISTICS OF THE POPULATION.

### METHODOLOGY

TRANSVERSAL STUDY THAT INCLUDES THE PEDIATRIC PATIENTS YOUNGER THAN 16 YEARS OF AGE THAT HAVE BEEN TREATED AT THE BURNS UNIT FROM OCTOBER THE 1ST OR 2004 TO SEPTEMBER THE 30TH OF 2019.

### RESULTS

OF 1723 PATIENTS, 39 PATIENTS WERE EXCLUDED BECAUSE THEY DID NOT HAVE MOST OF THE DATA REQUIRED FOR THE STUDY. A TOTAL OF 1684 PATIENTS AGED BETWEEN 1 MONTH AND 16 YEARS WERE INCLUDED. MEAN 4.4 SD 3.8 MEDIAN 3.

OF THE WHOLE UNIVERSE OF STUDY, IT HAD A DISTRIBUTION OF 58.6% MALE PATIENTS (N 988) AND 41.4% FEMALE PATIENTS

SITE OF THE ACCIDENT		
	N:	%
Home	1366	81.1
Outside	189	11.2
Other	109	6.5
Unknown	20	1.2
Total	1684	100

CAUSAL AGENT OF BURNS		
	N:	%
Scalding	1126	66.9
Fire	461	27.4
Electricity	73	4.3
Chemical	5	0.3
Contact	19	1.1
Total	1684	100

WHEN ASSOCIATING THE CAUSAL AGENT OF THE BURN WITH AGE GROUPS, IT WAS OBSERVED THAT CHILDREN UNDER 6 YEARS OF AGE ARE BURNED MORE FREQUENTLY BY HOT LIQUIDS AND THOSE OVER 6 YEARS OF AGE BY FIRE.

Abuse	Frequency (N)	%
Yes	63	3.7
No	1477	87.7
Unknown	144	8.60
Total	1684	100

-- THE AVERAGE HOSPITAL STAY WAS 14 DAYS (±14.6). DAYS PER PERCENTAGE OF BODY SURFACE BURN: 0.78.

BSA Percentage	Cause of discharge				Total
	Improvement	Transfer	Death	Voluntary Discharge	
<10 %	583 (100%)	0 (0%)	0 (0%)	0 (0%)	583
10-19%	484 (99%)	2 (0.4%)	2 (0.4%)	1 (0.2%)	489
20-29%	319 (84.9%)	3 (0.8%)	11 (3.3%)	1 (0.3%)	332
30-39%	71 (89.9%)	1 (1.2%)	7 (8.8%)	0 (0%)	79
40% > 40%	12 (30%)	1 (2.5%)	2 (5.3%)	0 (0%)	15
TOTAL	1487 (88%)	7 (0.4%)	24 (1.4%)	20 (1%)	1638

### APPLICABILITY TO CLINICAL PRACTICE

THIS STUDY POINTS US A PANORAMA OF THE TREATMENT OF BURNS IN OUR ENVIRONMENT AND SHOWS AREAS AND OPPORTUNITIES FOR IMPROVEMENT. THE TASK SHOULD INITIALLY FOCUS ON IMPROVING PATIENT CARE TIME AND PERFORMING DEBRIDEMENT EARLIER.

60% OF MORTALITY OCCURED IN PATIENTS WITH LESIONS LESS THAN 40%, AS SUCH, THE CAUSE FOR DECEASE SHOULD BE ANALYZED AND IMPROVED.

-- THE AVERAGE WAIT TIME TO RECEIVE MEDICAL ATTENTION WAS 60.2 HOURS (DE 131.7)

-- THE PERCENTAGE RANGE OF BODY SURFACE AREA BURNED WAS 1 TO 92%, MEAN 15.3% SD 12.4 MEDIAN 15.

Depth of the burn	Age group					Total
	<1 y/a	1-2 y/a	3-5 y/a	6-12 y/a	>12 y/a	
Second superficial	18	84	57	41	8	216
Second deep	7	84	42	38	9	180
Second superficial and deep	44	419	266	247	91	1029
Second & Third	2	43	38	62	24	189
Third degree	3	12	12	30	13	70
Total	74	652	437	418	103	1684

Location of burns	Frequency	%	BSA Percentage		
			N	%	
Face & Neck	40	2.4	<20 %	1238	74.7
Chest	46	2.8	20-30%	232	19.7
Upper Limbs	109	6.5	>40%	94	5.8
Lower Limbs	228	13.6	TOTAL	1684	100
Scrotum	18	1.1			
Multiple regions	1077	64			
unknown	106	6.3			
Total	1684	100			

-- THE AVERAGE BURN/DEBRIDEMENT DAYS WAS 3.1 DAYS (± 5.7), AN AVERAGE OF 2.8 (±2.5) SURGICAL PROCEDURES WERE PERFORMED PER PATIENT.

-- [THE PERCENTAGE OF INGRESS TO THE PEDIATRIC INTENSIVE CARE UNIT WAS 3.3% (57 PATIENTS).

Ingress to PICU by Age Groups					Total
< 1 y/a	1-2 y/a	3-4 y/a	4-12 y/a	> 12 y/a	
8 (8.7%)	20 (26%)	11 (18.2%)	11 (18.2%)	16 (17.8%)	67

Assisted ventilation by Age Groups					Total
< 1 y/a	1-2 y/a	3-4 y/a	4-12 y/a	> 12 y/a	
4 (7%)	12 (21%)	18 (17.8%)	11 (18.2%)	6 (14%)	48 (19.7%)

### CONCLUSIONS

- THE AVERAGE TIME TO RECEIVE MEDICAL CARE WAS 60.2 HOURS SD 131.7
- THE MALE SEX WAS THE MOST AFFECTED
- THE MAIN CAUSAL AGENT IN CHILDREN UNDER 6 YEARS OLD WAS SCALDS AND IN THOSE OVER 6 YEARS, FIRE AND ELECTRICITY
- THE HOME WAS THE MAIN PLACE OF OCCURRENCE OF BURNS
- CHILD ABUSE WAS DOCUMENTED IN 3.7% OF CASES
- THE AVERAGE TIME TO RECEIVE MEDICAL CARE WAS 60.2 HOURS (SD 131.7)
- THE MOST FREQUENT PERCENTAGE OF BODY SURFACE BURNED WAS <20%, ONLY 5.8% WERE GREATER THAN 40%.
- SUPERFICIAL AND DEEP 2° BURNS WERE THE MOST FREQUENT
- THE MOST FREQUENT LOCATION OF BURNS WAS IN MULTIPLE REGIONS, FOLLOWED BY THE LOWER EXTREMITIES
- THE AVERAGE NUMBER OF BURN/DEBRIDEMENT DAYS WAS 3.1 DAYS (SD 5.7)
- PEDIATRIC INTENSIVE CARE ADMISSION WAS 3.3%; 78.8% REQUIRED ASSISTED VENTILATION
- THE DAYS OF HOSPITAL STAY BY PERCENTAGE OF BODY SURFACE BURNED WAS 0.78 DAYS
- THE MAIN CAUSE OF DISCHARGE WAS IMPROVEMENT IN 98% AND MORTALITY IN 1.4%