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Reconstructive surgery after hand burns in children: a descriptive study from a Chilean cohort

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INTRODUCTION

Hand burns may lead to sequelae that greatly impact function in children. After burn injuries, some children require reconstructive surgery in their hands to improve function. In Chile, there are no data describing the clinical characteristics of the children that underwent such surgery procedures in their hands. COANIQUEM is an outpatient rehabilitation center that performs ambulatory reconstructive surgery in children. Therefore, this study aims to describe a paediatric population that received surgery in our center from 2011 to 2014.

OBJECTIVES

- To describe a pediatric population that received reconstructive surgery in an outpatient center between 2011-2014.
- To determine the association between reconstructive surgical requirement and demographic and clinical variables in patients with hand burns.

METHODOLOGY

- Observational retrospective study.
- Demographic and clinical data of patients that underwent a reconstructive hand surgery after burns in the period 2011-2014 was retrieved.
- Data was analyzed using descriptive statistics and differences among groups were compared using the U Mann-Whitney test.

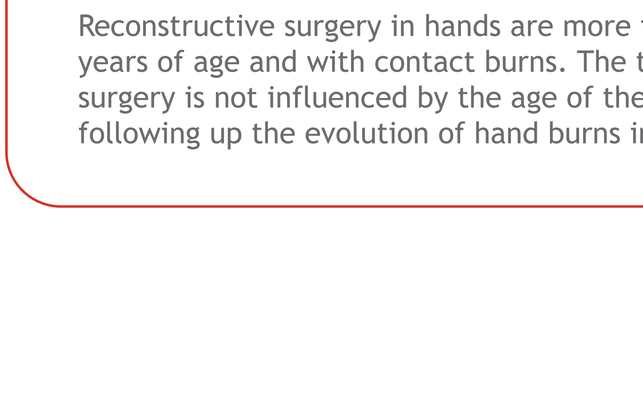
RESULTS

Sociodemographic characteristics		n	%
TOTAL		232	100
Gender	Female	96	41.4
	Male	136	58.6
Age of Injury	≤ 2 years	212	91.4
	> 2 years	20	8.6
	Mean ± SD	1.4 ± 1.3	
Agent	Contact burns	187	80.6
	Other	45	19.4

Surgical procedure data		n	%
TOTAL		232	100
Age at the time of first RS	≤ 2 years	46	19.8
	> 2 years	186	80.2
	Mean ± SD	7.8 ± 5.1	
Surgical technique RS (n = 323 total techniques)	Flaps	149	46.1
	Wing flaps	71	22.0
	Contracture release + STSG	10	3.1
	Contracture release + FTSG	93	28.8
Complications RS	None	218	94.0
	Necrosis + dehiscence	3	1.3
	Graft loss	8	3.4
	Bleeding + hematoma	1	0.4
	Donor site	2	0.9
Time between injury and 1st RS	< 2 years	57	24.6
	2 y 4 years	61	26.3
	> 4 years	114	49.1
	Mean ± SD	6.3 ± 5.0	

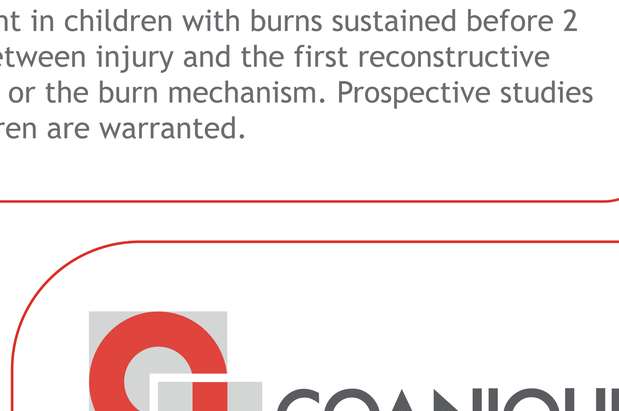
RS: Reconstructive Surgery
STSG: Split Thickness Skin Grafting
FTSG: Full Thickness Skin Grafting

Time between injury and 1st RS by age



p = 0.47 (U Mann-Whitney test, α = 0.05)

Time between injury and 1st RS by agent



p = 0.24 (U Mann-Whitney test, α = 0.05)

CONCLUSION

Reconstructive surgery in hands are more frequent in children with burns sustained before 2 years of age and with contact burns. The time between injury and the first reconstructive surgery is not influenced by the age of the injury or the burn mechanism. Prospective studies following up the evolution of hand burns in children are warranted.

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