

Improving Patient Transfer Quality with a Dedicated Transfer Center in an Emergency Setting: The Example of a Digital Replantation Program

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Introduction

Centralization to trauma centers has become the gold standard for management of severe traumatic injuries.^{1,2} For upper extremity injuries, transfers to specialized centers have been associated with better outcomes in terms of digital survival, hand function, aesthetic appearance and patient satisfaction.³

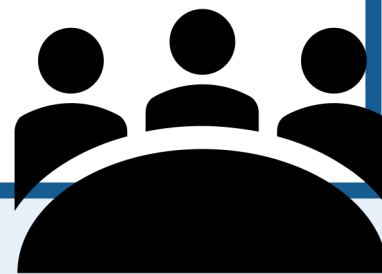
Unnecessary transfers, secondary to incomplete data collection, unclear transfer indications or poor communication, burden the trauma network⁴ :

- Important transportation costs
- Unnecessary mobilization of the care team and hospital resources
- Time consuming and stressful for the patient

Since 2004, an **expertise center in replantation of the upper extremity** was developed in our institution and covers 1,5 million km² and 8,5 million population⁵.

In 2019, a **dedicated transfer center** was added to facilitate transfer management:

- 24/7 call center managed by specialized nurses
- Standardized collection of relevant patient information, clinical photography and radiographic imaging
- Coordination of interhospital transfers and phone support to the referring hospital
- Standardized recorded discussions established by an intermediary from the transfer center between transferring and receiving doctors



Objective

Assess the **impact of implementing a dedicated transfer center** on the number of avoidable patient transfers to a centralized quaternary care center for upper limb replantation and revascularization.

Materials and Methods

- Study design and data collection:
 - Retrospective analysis of all transfer requests between Sep 2017–Dec 2021
 - Patient selection was made within two years of the implementation of the transfer center (2019) to allow comparison (before vs after)
 - Epidemiology, injury characteristics and transfer outcomes were collected for all transfer requests

Inclusion criteria	Exclusion criteria
All patient transfer requests for replantation or revascularization of upper extremity injuries to our expertise center	- Patients who presented directly to our emergency department - Inpatients coming from our hospital - Transfer requests for something other than upper extremity trauma

- Outcome assessment:
 - **Useful transfer**: microsurgical vascular procedure or exploration was performed



- **Avoidable transfer**: no microsurgical vascular procedure was necessary or possible



- Statistical Analysis: using SPSS Statistics software chi-square test and independent samples t-Test

Results

- **795 transfer requests** were included (88% male, mean age of 49yo)

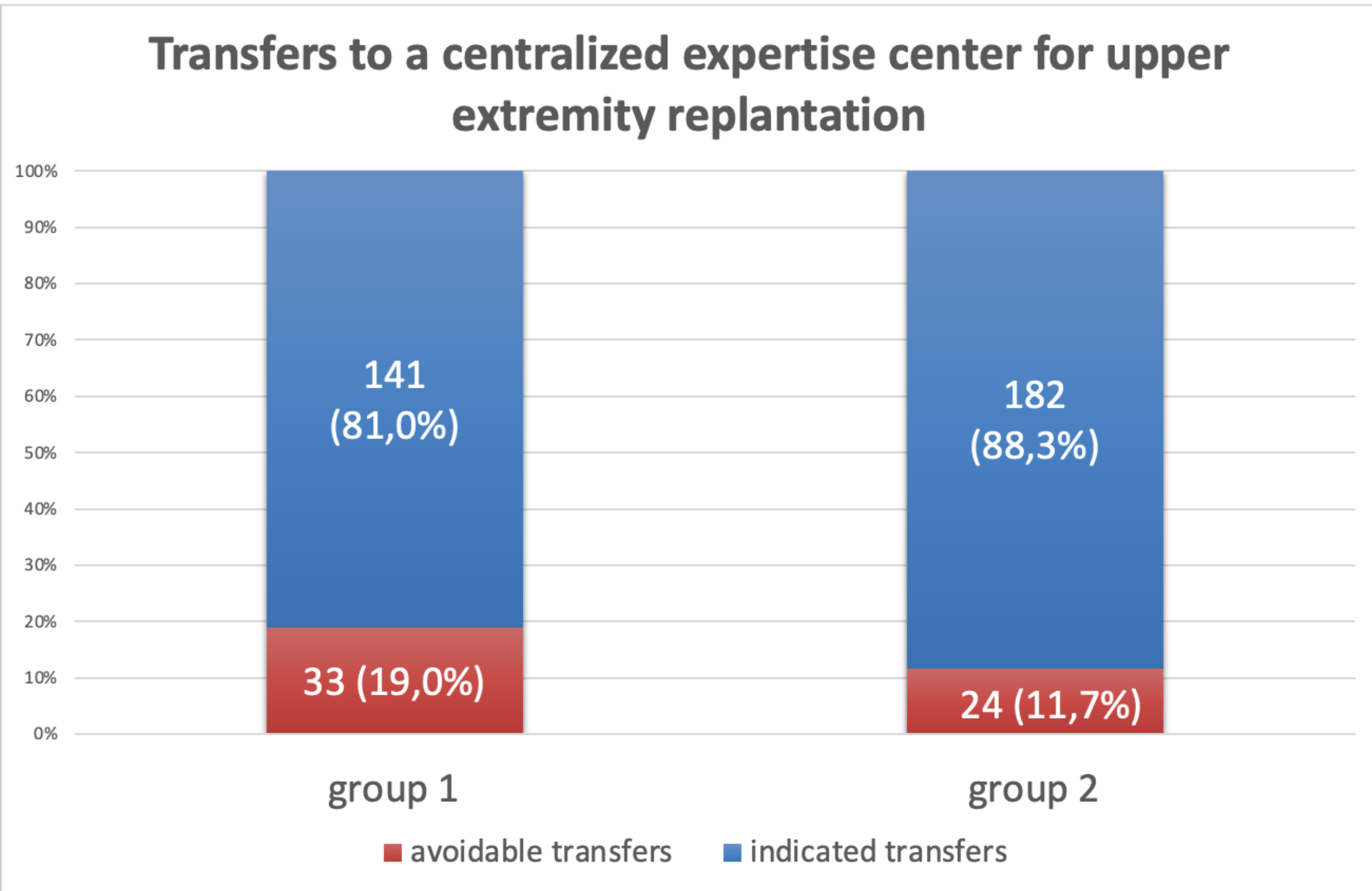
Following the implementation of a dedicated call center to the transfer center:

- **Transfer requests increased** from 13,5 to 17 requests/month (p= 0,016)
- **Refused transfer requests increased by 9%** (p= 0,009)

Figures

	Before the call center (gr 1)	After the call center (gr 2)	P-value
Transfer requests	326 requests (13,5 requests/month)	469 requests (17 requests/month)	0,016
Refused transfer requests	152 refusals (47%)	263 refusals (56%)	0,009

- **Avoidable transfers reduced by 7,3%** (p= 0,047)



Discussion: Impacts of the call center

