

The interest of local flap in the
management of fingers deep burn : about
62 cases

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Hand and digits

Hand burn are very common

- Superficial and deep second degree : « classic » management
- Third degree:
 - Require a excision of all burn tissue
 - Mean all cutaneous tissue / underlying tissue

Specific anatomical location

- Nerve, tendons, bones... are very superficial
- Excision: exposition risk very high

Issue

- Must be concern about the quality of the scar
 - Hand: fonctionnal and social organ
- Require a coverage
 - Adequate
 - Durable
 - Quality

Purpose

- Role of local flap in the management of deep burn of the digits
- Surgical indication: exposition
 - Tendons
 - Bones, articulation
 - Nerves

Serie

- Retrospective study : 2005 / 2019
- Patient suitable for inclusion
 - Adults / Children
 - Finger deep burn
 - Underwent local flap (random pattern or pedicled)
 - In our unit (Burn Center – Nantes)
- Consultation was realized by one senior for final evaluation

Data

- 52 patients / 62 flaps
- 35 males / 17 females
- Mean age 38 years old (2 to 82)
- Aetiology
 - Flame 48,6 %
 - Electric burn: 51,4 %

Data

- 62 flaps
 - 41 pedicled flaps
 - 21 random pattern flaps
- Loss of substance after excision mean surface: 4,2 cm²
- Donor site
 - Primary closure 50 cases
 - Full thickness skin graft: 12 cases

Donor site

Hand (dorsum): 12 cases

62 flaps

Finger \neq burn finger:
10 cases

Burn finger: 40 cases

Clinical Case 1

Female, 72 years old
Burn due to flame

Radial part of the
thumb,

IP exposed and open
MCP exposed



« Foucher » Flap





- Follow up 1 week



■ Clinical case 2

- Male, 64 years old
- Burn contact, Ulnar part of the fifth ray
- Excision: partial exposition
 - PIP
 - Extensor tendon



- Pedicled flap: reverse homodactyle



Design of the flap



▪ DAY 8



Case 3

- 32 years old
- Male
- Electric burn
- IP Thumb open







Result

- Rate of success : 94,1 %
 - Failure: 3 flaps
 - Venous congestion

- 3 cases
 - 2 amputations
 - 1 heal by secondary intention (6 weeks); joint arthodesis

Result

Evaluation: Minimum follow up 1 year (8 patients lost of follow up)

- No wound recurrence
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- Functionnal point of view
 - Scar Retraction : 3 cases
 - 1 case: Z plasty and FT skin graft
 - Limitation of the range of motion PIP / DIP joint: 3 patients
 - Lack of sensitiveness : 4 cases

- Cosmetic point of view
 - Flap too bulky: 4 cases
 - Skin coloration problem : 4 cases
 - No ask for revision

Discussion

- Flap advantages
 - Vascularized tissue ++
 - Growth capacity
 - Infection fight
 - Tendon coverage (gliding)
 - Single stage procedure
 - Allowed the patient to move quickly: avoid joint stiffness
- Flap disadvantages
 - Require particular skill
 - More difficult
 - Donor site morbidity

Discussion

- Surgical treatment Finger's deep burnis still a matter of discussion
- No indication (rate of success)
 - Vuillaume; Ann Chir Plast 2005
- Superiority (functionnal point of view)
 - Sheridan; J trauma 1995
 - Hallock J Burn Care Rehabil 1995
- Role of substitute skin
 - Kalmoz; Burn 2009

Conclusion

- Finger and hand burn are very common
- Must be concerned about deep burn:
 - Exposition of underlying tissue
 - Quality of the scar
- Our result show
 - Good rate of success
 - No wound recurrence
 - Good result fonctionnal and cosmetic point of view
- Local flap must be integrated in the decision tree for the management of deep burn of finger

The interest of local flap in the management of fingers deep burn : about 51 cases

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