



Original Article

Retrospective study to evaluate the treatment of digital pulp lesions using a homodigital flap[☆]



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ARTICLE INFO

Article history:

Received 22 December 2016

Accepted 23 January 2017

Available online 27 February 2018

Keywords:

Fingers/surgery

Amputation, traumatic

Surgical flaps

ABSTRACT

Objective: To assess the homodigital flap surgical procedure, as well as the function of the finger, pain, sensation, esthetics, and patient satisfaction.

Method: Retrospective analysis of records and questionnaires of patients who underwent this surgical technique between the months of May 2013 and October 2016. Eight were included in the study, with an average follow-up period of 23 months. Patients with digital pulp lesions of the thumbs and those who did not perform rehabilitation were excluded. All underwent the two-point discrimination test, the Semmes–Weinstein test, and range of motion evaluation. The age varied from 22 to 59 years (average of 32.9), six (75%) being male patients.

Results: Three patients (37.5%) had involvement of the right hand and five of the left (62.5%). Regarding the etiology, seven suffered injury and one a chemical burn. The average distance obtained from the two-point discrimination test was 7.3 mm. All patients who underwent the Semmes–Weinstein test obtained response to the purple filament. The average sum of the range of motion of the affected digit was 98.9%. The flap area was on average 294.4 mm². The return to work averaged seven weeks. A positive Tinel sign was found in the donating area and two reported intolerance to cold. Partial or total necrosis of the flap was not observed.

Conclusion: The homodigital flap technique presented satisfactory esthetics and functional results regarding feasibility, sensation, and digital mobility in pulp lesions.

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[☆] Study conducted at Hospital do Servidor Público Municipal (HSPM), Departamento de Ortopedia e Traumatologia, Centro de Cirurgia e Microcirurgia da Mão, São Paulo, SP, Brazil.

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<https://doi.org/10.1016/j.rboe.2017.01.011>

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Estudo retrospectivo para avaliação do tratamento de lesões da polpa digital com retalho homodigital

R E S U M O

Palavras-chave:

Dedos/cirurgia

Amputação traumática

Retalhos cirúrgicos

Objetivo: Avaliar o procedimento cirúrgico de retalho homodigital, bem como a função do quirodáctilo, a dor, a sensibilidade, a estética e a satisfação do paciente.

Método: Análise retrospectiva de prontuários e questionários de pacientes submetidos a essa técnica entre maio de 2013 e outubro de 2016. Oito pacientes foram incluídos no estudo, com uma média de seguimento de 23 meses. Foram excluídos os pacientes com lesões de polpa digital em polegares e os que não fizeram reabilitação. Todos os pacientes fizeram os testes de discriminação entre dois pontos, Semmes-Weinstein, e avaliação do arco de movimento. A idade variou entre 22 e 59 anos (média de 32,9), seis (75%) eram do sexo masculino.

Resultados: Três pacientes (37,5%) tiveram acometimento da mão direita e cinco (62,5%), da esquerda. Com relação à etiologia, sete sofreram lesão traumática e um sofreu queimadura química. A distância média obtida no teste de discriminação entre dois pontos foi de 7,3 mm. Todos os pacientes submetidos ao teste Semmes-Weinstein obtiveram resposta ao filamento de cor roxa. A média da somatória do arco de movimento do dígito acometido foi de 98,9%. A área do retalho foi em média de 294,4 mm². O retorno ao trabalho foi em torno de sete semanas. Um apresentou sinal de Tinel positivo na área doadora e dois referiram intolerância ao frio. Não se observou necrose parcial ou total do retalho.

Conclusão: : A técnica do retalho homodigital apresentou resultados estéticos e funcionais satisfatórios quanto à viabilidade, sensibilidade e mobilidade digital em lesões da polpa.

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Introduction

Digital pulp lesions are common in Brazil. Finger crushing and laceration caused by crushing by a door or between two objects, whether in the residence or in the workplace, are the most prevalent types. Patients are mostly pre-adolescent children or young adults. The third finger is the most often injured, due to its greater exposure when compared to the others.¹⁻³

Several techniques have been described for the initial emergency treatment of fingertip injuries, such as amputation, primary closure, grafts, and flaps.²⁻⁸

Digital pulp lesions are complex, and the preservation of a painless range of motion, sensation, and esthetics are challenging. Adequate rehabilitation is necessary to avoid joint stiffness and contracture.^{3,7-10}

The homodigital flap is a procedure that uses one of the digital arteries of the injured finger. It was first described by Kojima et al.¹⁰ and has the advantage of confining the reconstruction to the finger itself, which allows for a faster recovery, without the need for immobilization of the other fingers. It is of great value in digital pulp lesions, with few complications and good esthetic and functional results.^{1,5-10}

This study is aimed at evaluating the surgical procedure of the homodigital flap regarding esthetics, finger function, pain, sensation, and satisfaction of the patients who underwent this surgical treatment.

Methods

The study was approved by the Research Ethics Committee of the institution under opinion No. 1713113 Plataforma Brasil – CAE 58910916.4.0000.5442.

The study was carried out with data from medical records and questionnaires answered by patients from May 2013 to October 2016, aiming to evaluate the homodigital flap surgical procedure, finger function, pain, sensation, and satisfaction of those who underwent this surgical treatment.

The data was collected from the Center of Hand Surgery and Microsurgery of the hospital in which the authors work; the images of the clinical cases presented here, which refer to the surgical technique, originated from the authors' private files.

Fifteen medical records of patients with digital pulp lesions were selected; of these, eight met the inclusion criteria.

Patients with digital pulp lesion or amputations who underwent homodigital flap surgery and remained in outpatient follow-up at the hand surgery clinic and in occupational therapy (OT) were included.

Patients with digital pulp lesions of the thumbs or those who did not perform the rehabilitation protocol with OT were excluded.

These medical records were reviewed between September and October 2016.

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