

Long-term follow-up of patients who underwent surgery for chronic paronychia

Acompanhamento a longo prazo de pacientes submetidos a cirurgia de paroníquia crônica

ABSTRACT

Introdução: Chronic paronychia is an inflammatory disease of the proximal nail fold that usually lasts for more than six weeks. Surgical removal of the proximal nail fold is recommended in cases that are resistant to clinical treatment.

Objective: To analyze the long-term response to the surgical treatment of chronic paronychia.

Methods: Prospective cohort study of 62 patients who had undergone surgical treatment to correct chronic paronychia from November 2004 to April 2008. The patients were asked to return for reassessment and clinical observation of the presence or absence of signs of chronic paronychia and were classified into two groups: cured and uncured.

Results: Of the 62 patients, 12 attended the clinical reassessment, for a total of 31 procedures for analysis. The average length of patient follow-up was 5 years and 2 months. The results were maintained in 27 (87%) of the procedures performed.

Conclusions: Surgical removal of the proximal nail fold is a good option for the treatment of chronic paronychia due to its simplicity, effectiveness, and long-lasting results.

Keywords: paronychia; nail diseases; ambulatory surgical procedures.

RESUMO

Introdução: A paroníquia crônica é doença inflamatória da dobra ungueal proximal, geralmente presente por mais de seis semanas. O tratamento cirúrgico está indicado nos casos resistentes ao tratamento clínico e tem como objetivo a retirada da prega ungueal proximal.

Objetivo: O objetivo deste trabalho foi analisar a manutenção da resposta ao tratamento cirúrgico da paroníquia crônica a longo prazo.

Métodos: Estudo de coorte prospectivo no qual foram convocados 62 pacientes que haviam realizado tratamento cirúrgico para correção de paroníquia crônica no período de novembro de 2004 a abril de 2008. Os pacientes foram convocados a retornar ao serviço para reavaliação clínica e observação da presença ou não de sinais de paroníquia crônica e divididos em dois grupos: curados e não curados.

Resultados: Dos pacientes convocados, 12 compareceram à reavaliação clínica, totalizando 31 procedimentos. A média de tempo do seguimento dos pacientes foi de cinco anos e dois meses e houve manutenção do resultado em 27 (87%) dos procedimentos realizados.

Conclusões: A cirurgia de remoção da dobra ungueal proximal constitui boa opção para o tratamento de paroníquia crônica, sendo simples, eficaz e duradoura.

Palavras-chave: paroníquia; doenças da unha; procedimentos cirúrgicos ambulatoriais.

Original Article

Authors:

Natassia Pinheiro de Lavor Queiroz¹
Emerson Henrique Padoveze²
Ana Flávia Nogueira Saliba³
Gabriel Ângelo de Araújo Sampaio⁴
Erica Araújo Fernandes Debs⁵
Nilton Di Chiacchio⁶

- ¹ Dermatology Resident Physician, Hospital do Servidor Público Municipal de São Paulo – São Paulo (SP), Brazil
- ² Dermatologist Physician and Volunteer Physician, Hospital do Servidor Público Municipal de São Paulo
- ³ Dermatologist Physician and Former Resident Physician, Hospital do Servidor Público Municipal de São Paulo
- ⁴ PhD in Dermatology, Faculdade de Medicina da Universidade de São Paulo (FMUSP) – São Paulo (SP); Head of Dermatology, Hospital do Servidor Público Municipal de São Paulo

Correspondence:

Dra. Natássia Pinheiro de Lavor Queiroz
Rua Castro Alves, 60 – 5o andar/ sala 52
Cep: 01532-001 – São Paulo – SP, Brazil
E-mail: natassiapinheiro@hotmail.com

Received on: 10 July 2012
Approved on: 2 September 2012

This study was performed at the Hospital do Servidor Público Municipal – São Paulo (SP), Brazil.

Financial support: None
Conflict of interest: None

INTRODUCTION

Chronic paronychia is an inflammatory disease of the proximal nail fold (PNF). It represents approximately 18% of nail dystrophies, and its etiology results primarily from contact dermatitis and secondarily from infection by gram-negative bacteria and yeasts.¹ It is clinically characterized by erythema, pain, edema, the retraction of the proximal nail fold, and the absence of the adjacent cuticle. The nail bed becomes thick, and horizontal streaks (Beau's lines) appear secondary to the inflammation of the nail matrix and unguinal dystrophy.^{2,3}

Frequent contact with alkaline water is the main predisposing factor, in addition to diabetes mellitus and repeated trauma by aggressive manicuring. Housewives, nurses, waitresses, and fishermen are the most affected groups due to a greater exposure to water. This condition is also reported in patients who use retinoids, protease inhibitors, cetuximab, and epidermal growth factor inhibitors.³⁻⁵

Clinical treatment consists of avoiding predisposing factors and the use of topical and/or systemic drugs such as anti-inflammatories, antibiotics, and antifungals, however results are often unsatisfactory and protracted.⁴ Surgical treatment to remove the proximal unguinal fold is recommended in cases that are resistant to clinical therapy.² Studies evaluating the maintenance of the response to treatment after undergoing surgery are rare. This study assesses the long-term response to surgical treatment of chronic paronychia.

METHODS

A prospective cohort study assessed 62 patients who underwent the surgical removal of the PNF for treating chronic paronychia (affecting one or more digits, totaling 138 surgeries), in the period between November 2004 and April 2008, at the Dermatology Clinic of the Hospital do Servidor Público Municipal de São Paulo, in Brazil. Two treatment techniques were used: perpendicular incision to the skin – to completely remove the PUF – and oblique incision to the skin – to remove the PUF's roof, leaving the PUF's floor in place. Both surgeries were performed without removing the nail plate.

The patients were asked to return for a follow-up visit in October 2011 to check for clinical signs that are typical of chronic paronychia: inflammation of the proximal nail fold, absence of cuticle, and nail dystrophy. Patients who attended the follow-up visit and did not present any of those signs were deemed cured. Those who had at least one of the typical signs were considered uncured (Figure 1). Gender, age, and surgery type were not included in the study. The data underwent descriptive analysis, and the results were expressed as percentages.

RESULTS

Of the 62 patients enrolled, 31 did not provide correct contact details or did not answer phone calls, 16 did not provide any contact details in their medical records, two were unable to attend, and one patient had died. Twelve returned for follow-up and underwent surgical procedures in one or more fingers, totaling 31 procedures. The mean post-operative time was five

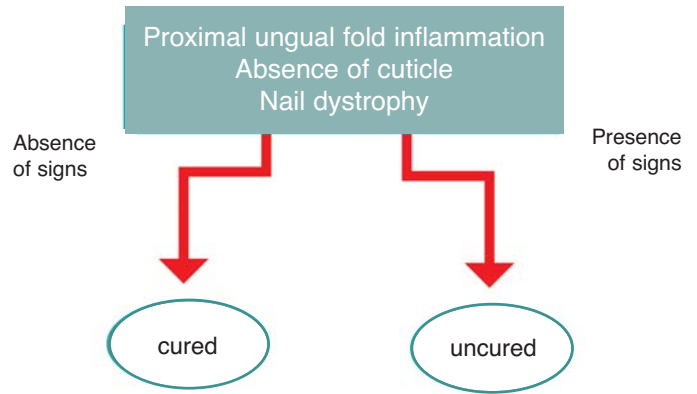


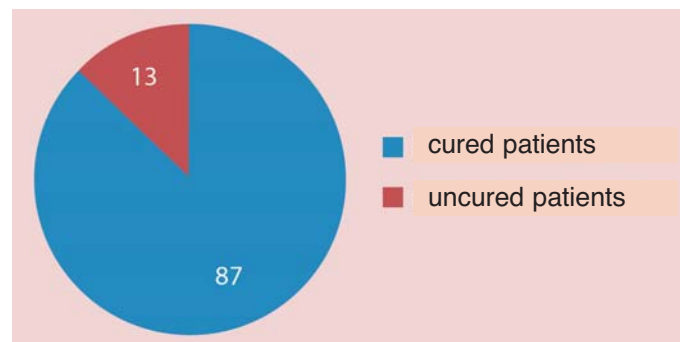
Figure 1: Classification of groups according to the presence or absence of clinical signs of chronic paronychia

years and two months. Of the 31 fingers evaluated, no clinical signs of chronic paronychia could be found in 27 (87%); they were deemed cured. In 4 fingers (13%), one or more of the typical signs could be observed, and were therefore considered uncured (Graph 1). The therapeutic response can be seen in Figures 2 and 3.

DISCUSSION

Chronic paronychia is characterized by a recurrent inflammation of the PNF. Initially, the loss of the cuticle occurs due to an excessive use of alkaline water, aggressive manicuring, or frequent contact with irritant agents. As a result, a space between the posterior nail fold and the nail plate opens up, allowing the entry of irritants and contactants, with resulting inflammation and colonization by fungi or bacteria. This inflammatory process becomes chronic and affects the formation of the nail plate, which becomes dystrophic.^{3,5} These features are often present for at least six weeks. Clinical treatment consists of avoiding possible causes and discontinuing topical use of steroids, antibiotics, and antifungals. The results are variable, given that few patients are able to change their habits or professions.⁴

Surgical treatment is recommended in resistant cases and is considered a straightforward, effective, and cost-effective option.²



Graph 1: Long-term follow-up of patients who underwent chronic paronychia surgery

* Results expressed in percentages



Figure 2 A: Pre-operative, fourth left finger. **B:** Six years after the procedure

Some surgical techniques have been described for this pathology. In 1976, Keyser and Eaton described the eponychial marsupialization technique, which consists of removing the dorsal surface of the PNF and keeping the ventral portion of the fold, without removing the nail plate.⁶ In 1981, Baran and Bureau described the technique of en bloc excision of the PNF, performing the incision perpendicularly to the PNF, with the resulting increase in the length of the visible part of the nail plate.⁴ A study performed by Di Chiacchio and colleagues showed that the removal of the posterior nail fold was effective for chronic paronychia, regardless of the technique performed, when comparing perpendicular and oblique excision techniques.¹ This study also observed that when the excision is perpendicular to the PNF en bloc removal increases the length of the visible part of the nail plate, whereas the oblique incision does not.¹

In this study, the authors observed that 87% of operated fingers were cured at the 62-month follow-up, a rate higher



Figure 3 A: Pre-operative, fourth left finger. **B:** Six years after the procedure

than that reported by Bednar and Lane (71.4%) and Grover and others (41%), in their 33-month and 16-month follow-ups, respectively, when only the removal of the PNF was performed. Those studies presented better results when the removal of the PNF was combined with the removal of the nail plate (96.4 vs. 70%), however the surgery was longer. That type of removal can cause alterations in the nail bed and unnecessary dystrophy in the nail plate.^{7,8}

A limitation of this study was that the sample was reduced due to difficulties in contacting the study patients for follow-up.

CONCLUSION

The surgical removal of the PNF is a straightforward, effective, and long-lasting treatment, which can be performed in an outpatient setting by dermatologists. Therefore it is a good option for the treatment of chronic paronychia. ●

REFERENCES

1. N Di Chiacchio, Debs EAF, Tassara G. Tratamento cirúrgico da paroníquia crônica. Estudo comparativo de 138 cirurgias utilizando duas técnicas diferentes. *Surg Cosmet Dermatol*. 2009;1(1):21-4.
2. Gadelha AR, Costa LMC. *Cirurgia Dermatológica no Consultório*. São Paulo: Editora Atheneu; 2009. p. 333.
3. Rigopoulos D, Larios G, Gregoriou S, Alevizos A. Acute and chronic paronychia. *Am Fam Physician*. 2008; 77(3):339-46.
4. Baran R, Bureau H. Surgical treatment of recalcitrant chronic paronychia of fingers. *J Dermatol Surg Oncol*. 1981;7:106-107.
5. Tosti A, Piraccini BM, Ghetti E, Colombo MD. Topical steroids versus systemic antifungals in the treatment of chronic paronychia: an open, randomized double-blind and double dummy study. *J Am Acad Dermatol*. 2002 ;47(1):73-6.
6. Keiser JJ, Eaton RG. Surgical cure of chronic paronychia by eponychial marsupialization. *Plast Reconstr Surg*. 1976;58(1):66-70.
7. Grover C, Bansal S, Nanda S, Reddy BS, Kumar V. En bloc excision of proximal nail fold for treatment of chronic paronychia. *Dermatol Surg*. 2006;32(3):393-8.
8. Bednar MS, Lane LB. Eponychial marsupialization and nail removal for surgical treatment of chronic paronychia. *J Hand Surg*. 16(2):314-7.