

## Conflicts of interest

None declared.

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Received 10 May 2021; accepted 30 May 2021

Available online 22 July 2021

<https://doi.org/10.1016/j.abd.2021.07.001>

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## Considerations on the development of surgical techniques for the treatment of onychocryptosis<sup>☆☆</sup>



Dear Editor,

As onychocryptosis is a frequent demand in dermatological assistance, and its surgical management requires both specific training and indication criteria, we read with interest the article by Ma,<sup>1</sup> which aimed to describe a new surgical approach for onychocryptosis.

Currently, there is no consensus, nor a body of evidence on the specific differences of the several surgical techniques for onychocryptosis, or on their comparison in terms of effectiveness, morbidity, infection, cost-effectiveness and technical difficulty. Therefore, the development of new methods is of scientific relevance and should be critically appreciated considering the described surgeries, especially regarding the technical differences and recurrence rates after 12 months.

Despite the interesting results presented by Dr. Ma, the proposed surgical technique sequence is very similar to the classic matricectomy described by Winograd (1929),<sup>2</sup> which has undergone several adaptations over the years.<sup>3,4</sup> More-

over, although low, there is an expected recurrence rate of approximately 6% in virtually all studies that used the Winograd method or its variants.<sup>4</sup> As this is a similar surgical approach, the result shown by Ma, who found no recurrence in 67 surgeries (with a follow-up of 6 to 12 months), may not represent a difference in relation to the expected rate of 6% ( $p = 0.119$  – Fisher Exact test) due to modest sample size. However, it can also be due to the small percentage of cases with grade I onychocryptosis, which usually do not show recurrence and whose frequency was not discriminated by the author.

Table 1 depicts the main technical characteristics of the Winograd method and its main variants, its recurrence rates, in addition to chemical matricectomy with 88% phenol and 80% trichloroacetic acid, for comparison.<sup>5</sup>

Surgical techniques for the treatment of onychocryptosis require careful systematization of the operative sequences and approach to the matrix, as well as the precise indication according to tissue hyperplasia, nail plate situation and pyogenic granuloma. Only the comparative analysis of the performance of the techniques, stratified according to the indications, can lead to criticism, aiming to maximize the performance of the procedures.

Due to the peculiar anatomy of the nail apparatus, surgical approaches to onychosis require specialized training by the dermatologist. However, despite the high prevalence of onychocryptosis and impact on quality of life, there is a lack of well-conducted comparative clinical trials that favor the personalization of indications. Moreover, it is crucial to review the previously described surgical techniques, both for their historical and scientific value, when one proposes the standardization of a new surgical technique.

<sup>\*</sup> How to cite this article: Miola AC, Alcantara GP, Miot LDB, Miot HA. Considerations on the development of surgical techniques for the treatment of onychocryptosis. *An Bras Dermatol.* 2021;96:651–3.

<sup>\*\*</sup> Study conducted at the Department of Dermatology, Faculdade de Medicina de Botucatu, Universidade Estadual Paulista, Botucatu, SP, Brazil

**Table 1** Characteristics of the main surgical techniques described for onychocryptosis.

| Publication  | Technique   | n                             | Recurrence rate   |
|--|---|-------------------------------|---|
| Winograd AM. <i>J Am Podiatr Med Assoc</i> 2007; 97:274-7.   | Incision of the eponychium<br>Removal of the nail plate to the matrix<br>Matrix curettage, dressing   | 10                            | Zero in 6 months  |
| Uygur E, et al. <i>Int J Surg</i> 2016; 34:1-5.              | Winograd method<br>Posterior suture of the surgical wound on the nail plate   | 128                           | 14% in 6 months   |
| Acar E. <i>J Foot Ankle Surg</i> 2017; 56:474-7              | Winograd method<br>Electrocoagulation of the matrix   | 102                           | Zero in 12 months   |
| Karaca N. et al. <i>Ann Fam Med</i> 2012; 10: 556-9          | Partial excision of the proximolateral matrix and phenolization of the matrix   | 348                           | 0.3% in 24 months   |
| Aksoy, et al. <i>Dermatol Surg</i> 2009; 35:462-8.           | Transposition flap of proximal nail fold with partial matricectomy  | 52                            | 3.9% in 12 months   |
| Osan F, et al. <i>Dermatol Surg</i> 2014; 40:1132-9.         | Partial matricectomy with curettage (group 1) vs. Partial matricectomy with electrocauterization (group 2)  | 92 (group 1) vs 57 (group 2)  | 2% in 10 meses (group 1) vs. Zero in 10 months (group 2)  |
| Dąbrowski M, et al. <i>Ann Med Surg</i> 2020; 56:152-160.    | Wedge-shaped excision of tissue lateral to the nail plate<br>Preservation of the nail matrix  | 54                            | 1.8% in 11 months   |
| Kimata, et al. <i>Plast Reconstr Surg</i> 1995; 95:719-24.   | Partial avulsion of the lateral nail plate<br>Chemical matricectomy with 88% phenol   | 537                           | 1% in 6 months  |
| Barreiros H, et al. <i>An Bras Dermatol</i> 2013; 88:889-93. | Partial avulsion of the nail plate and lateral nail matrix<br>Chemical matricectomy with 80% trichloroacetic acid   | 197                           | 1.5% in 12 months   |
| Muriel-Sanchez JM, et al. <i>J Clin Med</i> 2020; 9:845.     | Avulsion of the lateral nail plate to the eponychium and curettage of the nail matrix and nail bed (group 1) vs. Nail plate avulsion to the eponychium and 88% phenolization of the nail matrix (group 2) | 76 (group 1) vs. 36 (group 2) | 1.52% in 6 meses (group 1) vs. 2.8% in 6 months (group 2) |
| Montesi S, et al. <i>Dermatology</i> 2019; 235:323-6.        | 88% phenolization of the nail matrix for 4 minutes  | 622                           | 1.1% in 12 months   |
| Terzi E, et al. <i>Dermatol Surg</i> 2017; 43: 728-33.       | Avulsion of the lateral nail plate to the eponychium and chemical matricectomy with 90% dichloroacetic acid   | 58                            | 3.3% in 12 months   |

## Financial support

None declared.

## Authors' contributions

Anna Carolina Miola: Approval of the final version of the manuscript; drafting and editing of the manuscript; critical review of the literature; critical review of the manuscript.

Giovana Piteri Alcantara: Drafting and editing of the manuscript; critical review of the manuscript.

Luciane Donida Bartoli Miot: Drafting and editing of the manuscript; critical review of the manuscript.

Hélio Amante Miot: Approval of the final version of the manuscript; drafting and editing of the manuscript; critical review of the literature; critical review of the manuscript.

## Conflicts of interest

None declared.

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Received 15 March 2021; accepted 22 June 2021

Available online 23 July 2021

<https://doi.org/10.1016/j.abd.2021.06.002>

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## On the development of surgical techniques for the treatment of onychocryptosis – Answer<sup>☆☆</sup>



Dear Editor,

I am very pleased with the attention given to my article<sup>1</sup>. As mentioned in the table of the correspondence,<sup>2</sup> there are numerous surgical techniques for onychocryptosis. In the first paragraph of my article, I have cited the literature<sup>3</sup> to emphasize that all the surgical strategies can be categorized into two main approaches: either narrowing the nail plate or debulking the soft tissues. And I have chosen the first one.

The key point to narrow the nail plate is to destroy the corresponding part of the nail matrix completely. Treatments include surgery, electrocautery, and chemicals, etc. The most assured is the surgical excision. There are clear points and lines of reference in every step of the surgical approach I proposed. In the discussion, I emphasized that Step 4 is the most important procedure to avoid recurrence. I was very careful to cut off all the tissue around the corresponding part of the nail matrix in all my 67 patients. And there are still two suggestions: 1) to see the white phalanx; 2) to perform a little wedge-shaped resection. As a result, I am very confident to guarantee low recurrence or even no recurrence after surgery.

I have propagated my technique in more than fifteen hospitals in southern China. Most dermatologists only need to observe and listen once to achieve results similar to mine. Even so, with the established method, there may be a few differences in the final recurrence rate among different doctors.

<sup>☆</sup> How to cite this article: Ma H. On the development of surgical techniques for the treatment of onychocryptosis – Answer. *An Bras Dermatol.* 2021;96:653.

<sup>☆☆</sup> Study conducted at the Department of Dermatology, the Fifth Affiliated Hospital, Sun Yat-sen University, Zhuhai, Provincia de Guangdong, China.

## Financial support

This was supported by Zhuhai Science and Technology Plan Medical and Health Project (ZH2202200003HJL).

## Author contributions

Han Ma: Approval of the final version of the manuscript; design and planning of the study; drafting and editing of the manuscript; collection, analysis, and interpretation of data; effective participation in research orientation; intellectual participation in the propaedeutic and/or therapeutic conduct of the studied cases; critical review of the literature; critical review of the manuscript.

## Conflicts of interest

None declared.

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Received 30 April 2021; accepted 4 May 2021

Available online 15 July 2021

<https://doi.org/10.1016/j.abd.2021.05.003>

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