

# Treatment of pincer nails with the Fanti's technique

Tratamento de unha em pinça pela técnica de Fanti

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## ABSTRACT

**Introduction:** Pincer nails are characterized by an over-curvature of the nail in the transverse axis, causing the pinching of the nail bed at its distal portion. It most commonly affects the toes, occurring rarely in the fingers.

**Objective:** To demonstrate the Fanti's technique for the treatment of pincer nails.

**Methods:** Eleven patients from the Hair and Nails Ambulatory, bearing pincer nails, underwent surgery for the correction of the condition with the Fanti's technique.

**Results:** All patients had complete clinical improvement during the 14-month follow-up period.

**Conclusions:** The present study demonstrates the Fanti's surgical technique for the correction of pincer nails, where anatomical and functional improvement of the operated nails could be observed.

**Keywords:** nail diseases; nails; nail biting.

## RESUMO

**Introdução:** A unha em pinça caracteriza-se pela hipercurvatura da unha no eixo transversal, o que provoca o pinçamento do leito ungueal em sua porção distal. Acomete mais comumente os dedos dos pés, podendo ocorrer, mais raramente, nos dedos das mãos.

**Objetivo:** Demonstrar a técnica de Fanti para tratamento de unha em pinça.

**Métodos:** Onze pacientes com unha em pinça do Ambulatório de Cabelos e Unhas se submeteram a cirurgia para correção dessa patologia pela técnica de Fanti.

**Resultados:** Todos os pacientes apresentaram melhora completa do quadro clínico no período de seguimento de 14 meses.

**Conclusões:** Este trabalho demonstra a técnica cirúrgica de Fanti para correção da unha em pinça, podendo-se observar melhora anatômica e funcional das unhas operadas.

**Palavras-chave:** doenças da unha; unhas; unhas encravadas.

## INTRODUCTION

The transverse over-curvature of the nail is clinically classified into three types: 1) Pincer nail – where the over-curvature is increased along the axis in the proximal to distal direction (most common); 2) Tile nail – where there is a transverse over-curvature, however with the lateral margins remaining parallel; and 3) Folded nail – where there is moderate convexity on one or both sides of the lateral margins, which abruptly changes the angle, piercing in a cutting manner, on the lateral portion of the nail bed.<sup>1-3</sup>

The pincer nail most commonly affects the toes, occurring rarely in the fingers.<sup>2, 3</sup> Its etiology has not yet been fully elucidated, being attributed to several factors and diseases. As it

evolves, the over-curvature can cause pain, discomfort when using closed shoes, and secondary infections.<sup>3-5</sup>

Several surgical techniques have been proposed to correct deformities of the nail, varying according to the purpose of the treatment.<sup>6-8</sup> Although not having yet been enshrined in the technical literature, Fanti's technique is an alternative proposed for the treatment of pincer nails.

## METHODS

Eleven patients with pincer nails were selected from the Hair and Nails Ambulatory of the Dermatologic Clinic of the Faculdade de Medicina Estadual de São José do Rio Preto São José do Rio Preto (SP), Brasil. All patients underwent surgical and radiological evaluation with X-ray before undergoing surgery. The study was conducted according to the norms established by the Declaration of Helsinki 2000.

The goal of the surgical Fanti's technique is to widen the nail bed, decreasing the existing constriction. The complete technique consists of the following steps: 1) Asepsis of the finger; 2) Nerve block anesthesia with 2% lidocaine without epinephrine; 3) Placement of the tourniquet; 4) Total removal of the nail plate (Figure 1A); 5) Phenolization of the nail matrix (bilateral); 6) Median longitudinal incision of the nail bed up to the bone plane – from the free border up to the point just before the lunula – and excision in a "U" shape of the lateral and distal borders (Figures 1B, 1C and 1D); 7) Detachment of the nail bed close to the bone, creating two flaps; 8) Osteotomy of the ventral surface of the distal phalanx if necessary and diagnosed in the radiological evaluation (Figure 2); 9) Suture of the flap's tip with 4-0 monofilament nylon thread, laterally, in the nail fold (Figure 1D); 10) Hemostatic running sutures in the lateral and distal folds with 4-0 monofilament nylon thread (Figure 1F); 11)



FIGURE 1: Surgical technique of Fanti



FIGURE 2: Osteophyte in the distal phalanx

Removal of the tourniquet; 12) Application of dressing. The dressing is kept for 48 hours and then changed daily. The stitches are removed within 7 to 14 days.

## RESULTS

Patients undergoing Fanti's technique surgery had a thickened nail plate, clamping all along the longitudinal axis, mainly distal, and atrophy with keratinization of the nail bed. (Figures 3 and 4) After 14 months of observation there was significant improvement in the function of the nail, with an absence of symptoms and normalization of the local appearance, rectification of the nail plate and lengthening of the bed (Figures 5 and 6).

Post-operatively, all patients had moderate pain for a week, being more intense in the first 24 hours. After the removal of the stitches (7 to 14 days after the surgery), there were no reports of pain. The removal is allowed when the aspect of the nail is that of an adherent hematic crust (Figure 7).

The nail's function and aesthetics begin 21 days after the procedure and become complete in three months. In the third week, patients were allowed to use closed shoes with dressings dampened with oils, with an absence of reports of pain.

## DISCUSSION

Pincer nails can be inherited or acquired. The hereditary type, where family history and symmetry are present, usually affects the hallux but can affect any of the other toes or fingers.<sup>1,2,6</sup> The acquired type, where a main feature is the asymmetry, can be further subdivided into: a) secondary to orthopedic defect (when it is often caused by the deviation of phalanges due to the use of tight or inadequate shoes; b) secondary to chronic dermatoses (such as psoriasis, subungual exostosis, epidermal and myxoid cyst, onychomycosis, implantation of arteriovenous fistulas in the forearm – hemodialysis, medications – beta-blockers, association with metastatic adenocarcinoma of the sigmoid colon – marker, Kawasaki's disease, or the association with epidermolysis bullosa simplex; c) secondary to degenerative osteoarthritis of the distal interphalangeal joint of the fingers.<sup>2,3</sup> The congenital pachyonychia has a differential diagnosis with the pincer nail, being distinguished from the latter by not usually



FIGURE 3: Nail plate – pre-treatment



FIGURE 4: Nail plate – pre-treatment



FIGURE 5: Nail plate – post-treatment



FIGURE 6: Nail plate – post-treatment

causing pain and by affecting the fingers and toes.<sup>3</sup>

In order to perform the surgical treatment, the main indications are for patients suffering from pain and inflammation. Patients who have already undergone conservative treatment without success also provide indications for the procedure. Another major complaint reported by patients is the loss of quality of life: there is aesthetic embarrassment, in addition to the limitation of the use of certain types of footwear, mainly the closed type.<sup>4,6,7</sup>

Many surgical techniques have been reported in the literature for the treatment of pincer nails.<sup>8</sup> The most important options for the surgical treatment of over-curvature, are those with techniques aimed at reducing the width of the matrix and the proximal nail plate: the phenolization of the lateral over-curved horns, which eliminates the pain caused by the clamping of the bed, thus bringing immediate improvement to the pain; the technique described by Haneke, which combines the phenolization with the median incision of the nail bed; the detachment, which reduces the traction of the periosteum on the same; the removal of osteophytes, if required; and the reverse suture, seeking the rectification of the nail bed.<sup>3,6,7</sup>



FIGURE 7: Ideal post-operative clinical aspect for the removal of the sutures

## CONCLUSION

The present work demonstrates the surgical Fanti's technique for the correction of pincer nails, where the anatomical and functional improvement of the operated nail can be observed. ●

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