

Case Report

A RARE PRESENTATION OF INGROWN TOE NAIL

*Alagar Samy R.

ESIC Medical College and Hospital, Coimbatore, Tamilnadu, India

*Author for Correspondence

ABSTRACT

Onychocryptosis or ingrown toenail is a very common pathology of the toenail unit, chiefly affecting adolescents and young adults. The ingrown toenail is responsible for disabling complaints like pain and difficulty in walking. It is associated with significant morbidity, hampering the quality of life as it interferes with sporting activities, school, or work. It principally occurs in the hallux. It is ascribed to poor trimming of the nails in combination with local pressure due to ill-fitting footwear, hyperhidrosis, poor foot hygiene and nail abnormalities. Pain, swelling and discharge are the main clinical features. Four stages of the condition have been described. Diagnosis is usually evident, but it should be differentiated from subungual exostosis and tumors of the nail bed (James *et al.*, 2006). I report a case of ingrown toe nail involving right great toe with a swelling in the same toe with occasional pain. There was no history of trauma or any co morbid illness. Hence the right great toe nail with a swelling excised intoto. The Histopathological examination revealed only chronic inflammation. The post operative period was uneventful and discharged on third post operative period. It is being presented for its rarity.

Keywords: Onychocryptosis, Hallux, Ingrown, Avulsion

INTRODUCTION

Onychocryptosis or ingrown toenail is a very common pathology of the toenail unit, chiefly affecting adolescents and young adults. The ingrown toenail is responsible for disabling complaints like pain and difficulty in walking. It is associated with significant morbidity, hampering the quality of life as it interferes with sporting activities, school, or work. It principally occurs in the hallux. It is ascribed to poor trimming of the nails in combination with local pressure due to ill-fitting footwear, hyperhidrosis, poor foot hygiene and nail abnormalities (James *et al.*, 2006).

CASES

A 35 year old male presented with complaints of right ingrown toe nail with swelling in its inner aspect of the same toe for the period of 6 months.



Figure 1.1: Shows Right ingrown toe nail with swelling in the medial border

Case Report



Figure 1.2: Shows postoperative image of Right great toe wound bed



Figure 1.3: Shows postoperative image of right great toe wound bed

There was pain associated with the swelling for three months duration .there was no previous history of surgery or any comorbid illness. on local examination of right great toe revealed that there was a right ingrown toe nail with spherical swelling of size 3x2 cms size without any mobility with skin over the swelling and skin around the swelling were normal. After all basic investigations the patient undergone right great toe nail and swelling excision in toto. The wound left open and healed well. The Histopathological examination was consistent chronic inflammation only. The postoperative period was uneventful.

DISCUSSION

Introduction

Onychocryptosis (from Greek *onyx* nail and *kryptos* hidden) also known as ingrown toenail, or unguis incarnatus¹ is a common and painful form of nail disease. It is most common in teenagers and young adults during the second and third decades of life. The commonest symptom is pain in the affected nail which, if left untreated leads to infection, discharge and difficulty in walking, greatly hampering the

Case Report

quality of life of the individual. Diagnosis is apparent and several treatment approaches exist, ranging from a conservative medical approach to extensive surgical treatment options. The therapeutic approach chosen is dictated by the severity and stage of the ingrown toe nail.

Pathogenesis

The widely accepted theory is that onychocryptosis occurs when the lateral nail fold is penetrated by the edge of the nail plate, resulting in pain, sepsis and, later the formation of granulation tissue (Baran *et al.*, 2001). Penetration is often caused by spicules of nail at the edge of the nail plate, which incite an inflammatory response. The great toes are the most often affected (Lathrop, 2005). Various theories have been proposed to explain the aetiology of the ingrown toenail and they can be broadly classified according to whether the primary fault is the nail itself or the soft tissues at the side of the nail (Chapeskie; Langford *et al.*, 1989; Pearson *et al.*, 1987). One theory is that the nail is not the real culprit, and it is actually the excess skin surrounding the nail which is the real problem (Pearson *et al.*, 1987). The persons who develop this condition have an unusually wide area of tissue medial and lateral to the nail and that with weight bearing, this tissue tends to bulge up around the nail, leading to pressure necrosis (Pearson *et al.*, 1987; Hendricks, 1979). A prospective study by Pearson and colleagues (Kreft *et al.*, 2003) failed to demonstrate any abnormality of the nail in patients with symptomatic ingrown toenails, and suggested that treatment should not be based on the correction of a nonexistent nail deformity. Although it is still believed that the real defect lies in the nail, the controversy of whether there is a nail plate abnormality or overgrown nail folds still exists.

Predisposing Factors

Although an ingrown toenail can affect any age group, teenagers are usually most prone to the development of this abnormality. In adolescence, increased perspiration causing the nail fold to become soft and participation in sports result in the production of nail spicules, which can pierce the lateral skin fold of the nail apparatus. In older persons, spicule formation can be caused by reduced ability to care for their nails secondary to reduced mobility or impaired vision. In addition, the natural aging process causes toenails to thicken, making them more difficult to cut and more inclined to exert pressure on the lateral skin at the sides of the nail plate, often becoming ingrown, painful, and infected (Hendricks, 1979). Particular nail shapes may be at greater risk of developing this problem. The condition is unilateral in 80% of cases and mostly affects the hallux. Usually males are more commonly affected. Initially, there is pain and redness, followed by swelling and pus formation. Granulation tissue then forms, increasing the compression, which adds to the swelling and discharge. A recent classification by Mozena (1996) has described four stages of onychocryptosis.

Diagnosis

Ingrown toenail is not difficult to diagnose. Differential diagnosis includes subungual exostosis, primary osteomyelitis of the phalanx and tumors of the nail bed, including subungual melanoma. Various other tumors, primary or metastatic, can mimic the presentation of an ingrown toenail (Cambiaghi *et al.*, 1997).

Complications

Paronychia or secondary infection of the nail fold is common and can be caused by *Staphylococcus*, *Pseudomonas*, *Candida*, and superficial dermatophytes (Riviera, 1998). It is important to treat any secondary infections resulting from or following ingrown toenails. Scarring of the nail fold and skin and rarely, cellulitis and osteomyelitis can occur. In diabetics, it may lead to amputations or life-threatening infections (Bourezane *et al.*, 1999).

Conclusion

The ingrown toenail continues to be a common source of morbidity worldwide and has a significant impact on the quality of life of an individual (Baran, 1990). Correct management of onychocryptosis requires identification of the stage and evaluation of the affected tissue. Nail surgery should be considered in cases of pain, recurrent onychocryptosis, surgical relapse, and failure of conservative treatment (Nicolopoulos and Howard, 2002). It is important to select the surgical technique that is best suited to the patient's particular clinical situation. The evidence suggests that simple nail avulsion combined with the use of phenol, is more effective at preventing symptomatic recurrence of ingrowing toenails, though with

Case Report

an increased risk of infection. Despite innumerable treatment options, ideal technique with a low recurrence rate, low downtime and high cosmetic acceptability is still to be elucidated (Higgins *et al.*, 1995).

REFERENCES

- Baran R (1990).** Retinoids and the nails. *Journal of Dermatological Treatment* **1** 151-4.
- Baran R, Haneke E and Richert B (2001).** Pincer nails: Definition and surgical treatment. *Dermatologic Surgery* **27** 261-6.
- Bourezane Y, Thalamy B, Viel JF, Bardonnnet K, Drobacheff C and Gil H et al., (1999).** Ingrown toenail and indinavir: A case control study demonstrates strong relationship. *AIDS* **22** 2181-2.
- Cambiaghi S, Pistrutto G and Gelmetti C (1997).** Congenital hypertrophy of the lateral nail folds of the hallux in twins. *British Journal of Dermatology* **136** 635-6.
- Chapeskie H (No Date).** Ingrown toenail or overgrown toe skin? Alternative treatment for onychocryptosis. *Canadian Family Physician.*
- De Berker DA and Baran R (2004).** Disorders of nails. In: *Rook's Textbook of Dermatology*, 8th edition, edited by Burns T, Breathnach SM, Cox N and Griffiths C (Oxford: Wiley-Blackwell).
- Hendricks WM (1979).** Congenital ingrown toenails. *Cutis* **24** 393-4.
- Higgins EM, Hughes JR, Snowden S and Pembroke AC (1995).** Cyclosporin-induced periungual granulation tissue. *British Journal of Dermatology* **132** 829-30.
- James WD, Berger T and Elston D (2006).** Diseases of the skin appendages. In: *Andrews' Diseases of the Skin: Clinical Dermatology*, edited by James WD, Berger T and Elston D (Philadelphia, PA: Elsevier) 749-93.
- Katz A (1996).** Congenital ingrown toenails. *Journal of the American Academy of Dermatology* **34** 519-20.
- Kreft B, Marsch WC and Wohlrab J (2003).** Congenital and post partum unguis incarnati. *Hautarzt* **54** 1083.
- Langford DT, Burke C and Robertson K (1989).** Risk factors in onychocryptosis. *British Journal of Surgery* **76** 45.
- Lathrop RG (2005).** Ingrowing toenails: Causes and treatment. *Cutis* Rounding C, Bloomfield S. Surgical treatments for ingrowing toenails. *Cochrane Database of Systematic Reviews* **2** CD001541.
- Nicolopoulos J and Howard A (2002).** Docetaxel- induced nail dystrophy. *Australasian Journal of Dermatology* **43** 293-6.
- Pearson HJ, Bury RN, Wapples J and Watkin DF (1987).** Ingrowing toenails: Is there a nail abnormality? A prospective study. *Journal of Bone and Joint Surgery British* **69** 840-2.
- Riviera A (1998).** Risk factors for amputation in diabetic patients: A case controlled study. *Archives of Medical Research* **29** 179-84.
- Tosti A and Piraccini BM (2007).** Biology of nails and nail disorders. In: *Fitzpatrick's Dermatology in General Medicine*, 7th edition, edited by Wolff K, Goldsmith LA, Katz S, Gilchrest B, Paller A and Leffell D (New York: McGrawHill) 778-94.