Segmental Phenolization for the Treatment of in Growing Toenails

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Abstract

Background: Ingrown toe nail is a common condition which causes lot of discomfort and morbidity. Though ingrown toenail recognized since long, a satisfactory treatment remains elusive. The range of treatment is from conservative management to amputation of distal part of big toe, but the quest for the ideal procedure remains. Many of the procedures used for treating this painful condition cause considerable discomfort and have high failure rates.

Objectives: Assessing the efficacy of the procedure partial excision, curate of the opposite matrix and phenolization in the treatment of the ingrown toe nail.

Patients and methods: A 60 patients with ingrown toe nail managed as an outpatient has been studded prospectively for the efficacy of the procedure partial excision, curate of the opposite matrix and phenolization.

The study done in diala, baquba over the period from 1996-2009.

Different age groups, both males and females are included in the study. The age range was 15-60 years.

Results: There was no recurrence in the sample taken,the procedure was simple ,accepted by all of the patients with excellent aesthetic results and can be achieved as an outpatient.

Conclusion: Phenol cauterization is an excellent surgical method for the treatment of ingrown toenails, being simple and associated with low morbidity, high aesthetic results and a high success rate, even over the long term.

Key wards: Ingrown toe nail, onchocryptosis

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Introduction

Ingrown toenails are frequently encountered in clinical practice, with an estimated 10 000 new cases per year in the United Kingdom. Young men are most frequently affected, and the associated morbidities have significant economic impact, secondary to decreased mobility and work absenteeism.[1, 2].

Currently, a wide variety of treatment options exist; however, they are associated with poor cosmetic results, low rates of patient satisfaction and high rates of recurrence.

Vandenbos and Bowers suggested that pressure necrosis of the soft tissue surrounding the nail contributes to the

pathogenesis of ingrown toenails.[3, 4, and 5]

Indeed, increased nail-fold skin width in patients with ingrown toenails, greater weight-bearing on the soft tissue of the nail fold and repetitive rotation of the toe have all been suggested to be important contributing factors.[6,7,8]

A study by *Pearson and colleagues* helped to draw the focus away from the nail as the causative agent. They reported no differences in the shape of the toenails among patients with ingrown toenails and healthy controls. It is tempting to speculate that the current surgical interventions that target the nail (i.e., nail avulsion and matricectomy) do not directly address the causative soft-tissue pathology.[9]

Initial treatment of an ingrown toenail, or onychocryptosis, is conservative management, including avoiding tight-fitting shoes and using warm water baths and soft compresses. Surgical intervention is ultimately required in refractory cases. Many approaches have been described, with most targeting the nail as the causative agent. Partial nail avulsion coupled with chemical destruction of the nail matrix (matricectomy) with phenol remains the most preferred surgical technique.[10, 11]

Ingrown toenail is a common condition which causes lot of discomfort and morbidity. Though ingrown toenail recognized since long, a satisfactory treatment remains elusive. The range of treatment is from conservative management to amputation of distal part of big toe, but the quest for the ideal procedure remains. Many of the procedures used for treating this painful condition cause considerable discomfort and have high failure rates.

Ingrown toe nail can present in three stages:

1. Stages: Ingrown Toenail
    1. Stage 1 ingrown nail
        1. Erythema, trace edema and pain at lateral nail fold
    2. Stage 2 ingrown nail
        1. Increased pain and discharge from nail edge
        2. Signs of bacterial Paronychia
    3. Stage 3 ingrown nail
        1. Most significant symptoms of ingrown nail
        2. Lateral nail fold hypertrophy and granulation tissue

Reijnen and Goris suggested following criteria for a satisfactory method of treatment of ingrowing toenail **(12):**

1. The procedure should be simple and cheap.

2. There should be little post-treatment discomfort.

3. Return to normal activities should be quick.

4. The percentage of complications should be low.

5. Recurrence should be minimal.

6. The resulting toe should be cosmetically acceptable.

Aim of The Study

Assessing the efficacy of the procedure partial excision, curate of the opposite matrix and phenolization in the treatment of the ingrown toe nail.

Patients and Methods

60 patients with ingrown toe nail managed as an outpatient has been studded prospectively for the efficacy of

the procedure partial excision, curate of the opposite matrix and phenolization.

The study done in diala, baquba over the period from 1996-2009.

Different age groups, both males and females are included in the study. The age range was 15-60 years. (**Table 1)**

The patients were having unilateral, bilateral, single or both nail folds are ingrown. (**Table2)**

The procedure done for the patients was as follow:

After lying down the patient, local anesthesia 2% plain lidocain is injected at the base of the toe (digital nerve block),then after parasthesia started ,the leg is elevated above the heart level ,the toe is squeezed using rubber ring stsrted from the tip of the toe proximally emptying the toe from blood and left at its final site acting as a tourniquet that keep bloodless field throughout the surgery.Bloodless field also prevent phenol dilution. After that and using a scalpel, a longitudinal incision is made at the end of the nail fold, elevating about 4 mm of the ingrown nail which is then excised. Then using the Elese forceps the nail fold is pulled aside and by a sharp small curate, the nail matrix opposite to the excised part of the nail is curetted until the proximal part Of the distal phalanx is reached.

After that 5% phenol is applied for three minutes over the curetted part of the matrix, then washing the phenol using sprit then the hypertrophied tissue of the nail fold is excised. The wound is then dressed without suturing by gauze and bandage. The tourniquet is removed ,the leg left elevated for few minutes after which the patient is sent home with simple analgesia (paracetamole) and simple antibiotic (cephalexin).The patient instructed to relax the dressing when it is felt tight otherwise he(she) should change it within 2 days.

The patients were followed up for one year for recurrence.

Results

60 patients with ingrown toe nail have been treated by partial excision of the nail, curetting the matrix then phenolization. Most of the patients were older than 40 years with female predominance.

On follow up, the patients were able to return to their daily activities within days and can wear shoes after 4 weeks. Also excellent cosmetic results were achieved together with high satisfaction.

The patients were followed for one year, no single recurrence seen.

Discussion

60 patients with ingrown toe nail managed as an outpatient by partial excision, curate of the opposite matrix and phenolization.

There were no single recurrence and the cosmetic results were excellent.

These results are in concordance with those of Andreassi A, Grimaldi L, D'Aniello C, Pianigiani E, Bilenchi R,and those of Ramsay G, Caldwell D.Robb JE, Murray WR.Bostanci S, Ekmekçi P, Gürgey E who all showed that phenol cauterization is an effective method and may be the preferred one in the treatment of the ingrown toe nail.

Conclusion

Phenol cauterization is an excellent surgical method for the treatment of ingrown toenails, being simple and associated with low morbidity, high aesthetic results and a high success rate, even over the long term.

Table 1: Distribution of the patients according to the age.

Age(years)	Number of males	Number of females	Total
10-19	1	6	7
20-29	6	17	23
30-39	3	11	14
40-49	3	10	13
50-59	1	2	3
More than 60	0	0	0
Total	14	46	60

Table 2: Site of the disease with respect to the toe.

Site of the disease	Number of patients	%
Single hallux	40	66.6
Both halluces	20	33.3

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