

Early Stage Ingrown Toe Nail & Role of Conservative Treatment- An experience at Sukkur

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ABSTRACT

Objective: To find out the frequency, causes & role of conservative treatment in early stage ingrown toe nail.

Study Design: Descriptive, observational, case series study.

Place and Duration of study: This study was conducted at the Department of Surgery, Ghulam Muhammad Mahar Medical College (GMC), Teaching Hospital, Sukkur from March 2011 to February 2012.

Materials and Methods: Detailed history & physical examination especially local examination of the affected toe was made in OPD, to stage the disease. Only patients with early stage (Stage-I) ingrown toe nail were included in this study. Patients in advanced stages (stages-II & III), with history of diabetes, trauma, vascular diseases & all recurrent cases, which were operated upon in past excluded from this study. The patients were treated conservatively by advising for good foot hygiene & cutting the nails properly. Selected patients required wicking technique. This procedure was taught to patients so that they could do it once or twice daily at their homes. Patients were kept on antibiotics where required & simple pain killers. The patients were advised to visit the OPD regularly at defined time.

Results: 86 patients participated in this study, 54 (62.7%) were males & 32 (37.2%) were females with male: female ratio of 1.68: 1. Age ranged from 17- 66 years, majority of patients were in between 21 to 40 years of age (44.1%) with mean age of 36 years. In majority of patients the right big toe was affected (n= 56, 65.1%), in 22 (25.5%) left big toe & in 08 patients (9.3%) there was bilateral involvement of both big toes. Lateral nail fold was affected more (n= 38, 44.1%) than medial fold (n= 12, 13.9%). In 36 (41.8%) patients both nail folds were affected. Various causative factors were identified with most important was improper nail trimming (n= 17, 19.7%) followed by tight fitting shoes (n=14, 16.2%) & idiopathic (n=02, 2.3%). Majority of the patients (n=52, 60.4%) were only required antibiotic, pain killer & advice on foot care while 34 (39.5%) patients were advised for wicking. In our study, the success rate of conservative treatment remained 92.85% (n=65) at one year follow up.

Conclusion: Ingrown toe nail is quite common condition. In early stage, it can be safely treated by conservative methods, if applied properly, which avoid disfigurement & train the patients to care for their own toes.

Key Words: ingrown toe nail, early stage, conservative treatment.

INTRODUCTION

Onychocryptosis (ingrown toe nail) also known as unguis incarnatus¹ is not the uncommon problem but is the condition known to everyone. This word is derived from Greeks.² It is a painful condition in which the nail grows so that it cuts into one or both sides of the paronychium or nail bed. The common opinion is that the nail enters inside the paronychium but an ingrown toenail may be overgrown toe skin.³ This can occur in both the nails of the hand & feet, but is more common in the hallux (Big toe) of young males. It may be congenital or acquired.^{4,5} The pathological process involves the abutment of soft (wall) & hard (plate) nail parts, due to the abnormalities in one or both of these.⁶ The lateral edge of the nail impinges upon the fold, resulting in inflammation, epithelial disruption, secondary infection & soft tissue infection, it may progress to osteomyelitis of distal phalynx. It is classified into three stages according to severity by Heifitz.^{6,7} (Table-I)

Predisposing factors for ingrown toe nail include incorrect nail trimming (cutting corners), tight shoes, deformities of toes, fungal infections, systemic abnormalities like arthritis, immune deficiency, neoplasm, increased sweating, obesity & diabetes.⁸ Treatment can be non- surgical (conservative) or surgical depending on the cause, disease stage & condition of the patient.^{9, 10, 11} Conservative treatment is usually sufficient for early stage disease & surgical treatment is needed for late stage, complicated & recurrent cases.^{12, 13, 14, 15}

MATERIALS AND METHODS

The patients who visited in surgical OPD of GMC Teaching Hospital Sukkur with ingrown toe nail were included in this study from March 2011 to February 2012. A detailed history & physical examination especially local examination of the affected toe was made to stage the disease. All patients' data were recorded in a specified proforma & each patient allocated an identification number. Only patients with

early stage (Stage-I) ingrown toe nail were included in this study. Patients in advanced stages (stages-II & III), with history of diabetes, trauma, vascular diseases & all recurrent cases, which were operated upon in past excluded from this study. All the selected patients were treated as OPD cases. Base line investigations like Blood CP & Blood Sugar were done in all cases. The patients were treated conservatively with the instructions on to maintain good foot hygiene, wearing loose shoes, soaking the affected foot in warm tape water one or two times a day, trimming the nails correctly, applying repeated massage of hypertrophic folds. Selected patients required wicking technique. In wicking, the fabric material (cotton or piece of gauze) was gently introduced under the corner of the involved nail in the nail groove before introducing pledges (cotton) soaked in pyodine solution. This procedure was taught to patients so that they could do it once or twice daily at their homes. Patients were kept on antibiotics where required & simple pain killers. The patients were advised to visit the OPD twice in week for two weeks & then in follow up once a week for one month. They were encouraged to visit once a month for at least six months & then yearly to note any recurrence.

RESULTS

There were 86 patients participated in this study. Among these, 54 (62.7%) were males & 32 (37.2%) were females with male: female ratio of 1.68: 1. Age ranged from 17- 66 years, majority of patients were in between 21 to 40 years of age (44.1%) with mean age of 36 years (Table-II). Presenting features are shown in Table- III. In majority of patients the right big toe was affected (n= 56, 65.1%), in 22 (25.5%) left big toe & in 08 patients (09.3%) there was bilateral involvement of both big toes. Lateral nail fold was affected more (n= 38, 44.1%) than medial fold (n= 12, 13.9%). In 36 (41.8%) patients both nail folds were affected.

Table No.1: Classification of Onychocryptosis (Ingrown toe nail) by Heifitz ^{6,7}

Stage	Description
I	Pain, mild nail fold erythema & swelling
II	Increased swelling, seropurulent discharge & ulceration of fold
III	Chronic inflammation with granulation & marked fold hypertrophy

Table No.2: Age distribution of patients

Age	No. of Patients (n=86)	Percentage
Less than 20	12	13.9%
21 – 40	38	44.1%
41 – 60	33	38.3%
Above 60	03	03.4%

Various causative factors were identified in the development of ingrown toe nail including, improper trimming (n= 17, 19.7%), tight fitting shoes (n=14,

16.2%) & idiopathic (n=02, 2.3%). In majority of the cases the cause was combined, tight shoes & improper trimming of the corner of the nail (n=53, 61.6%). Majority of the patients (n=52, 60.4%) were only required antibiotic, pain killer & advice on foot care while 34 (39.5%) patients were advised for wicking. In our study, the success rate of conservative treatment remained 92.85% (n=65) at one year follow up. There were only 05 (07.14%) recurrences at 08 months & later. 16 patients (18.60%) lost follow up after 04 months.

Table No.3: Presenting Features

Presenting Features	No. of patients	Percentage
Pain in affected toe/ toes	84	97.6%
Redness	79	91.8%
Swelling	58	67.4%

DISCUSSION

Ingrown toe nail (onychocryptosis) is a common problem nearly known to everyone, affecting mostly the young males as well as females. In most of the cases the big toe (hallux) is involved. The medial as well as lateral nail folds can be affected. ^{1,2,3} As it is a common condition so it gets less attention at the earliest stages & most of the people treat it themselves with over the counter antibiotics & pain killers without getting any expert help. So the condition aggravates over the time & leads to advanced stage. Recurrence is usual due to the poor understanding of the causative factors & ignoring the nail cutting principles. The majority of the population is trimming the corners of their nails so that the new nail grows into the fold leading to inflammation, swelling, pain and infection. ^{8,9} In our study majority of the patients were in between 21 to 40 years of age (n=38, 44.1%) while males (n=54, 62.7%) were affected more than females (n=32, 37.2%) with male to female ratio of 1.68:1. It is quite equal to the studies of Ashcroft DJ, Young MRA & Robert W. Ikard where it was 2:1. ^{16, 17, 18} Improper nail trimming only, by cutting the corner of the big toe nail beneath the lateral nail fold was observed in 17 (19.7%) patients that is the routine practice of nearly all people. Treatment of this condition can be non- surgical or surgical, depending on the cause, disease stage & condition of the patient. Non- surgical methods should be attempted in stage-I disease but as the disease advances in to II, III & in recurrent disease, the non-operative cure rates diminish. ^{13, 14, 15} Non-surgical treatment includes, instruction to patients for proper nail cutting methods, wearing loose shoes, antibiotics for infection, cauterization, strapping & wicking. The goal of non-surgical conservative treatment is to allow the nail plate to grow out the end of toe beyond the nail ground. ¹⁹ In majority of the cases the cause was

combined, tight shoes & improper trimming of the corner of the nail (n=53, 61.6%). Majority of the patients (n=52, 60.4%) were only required antibiotic, pain killer & advice on foot care while 34 (39.5%) patients were advised for wicking. In our study, the success rate of conservative treatment remained 92.85% (n=65) at one year follow up & this is in accordance with other studies where cure can be obtained in more than 75%.^{20,21} There were only 05 (07.14%) recurrences at 08 months & later. Although residential addresses & in majority of the cases the contact numbers were obtained & kept in records at the time of registration, 16 patients (18.60%) lost follow up after 04 months.

CONCLUSION

Ingrown toe nail is quite common condition affecting the large proportion of population. In early stage, it can be safely treated by conservative methods, if applied properly, which avoid disfigurement & train the patients to care for their own toes but has the disadvantage of being time consuming & requiring a high degree of patient cooperation.

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