EVALUATING THE IMPACTS OF TREATING INGROWN NAIL WITH PHENOL

Le Viet Khanh[1], Hoang Duc Yen[1], Duong Huu Thanh[1],
Nguyen Dang Hai Duong[2], Nguyen Thi Thuy[2]

ABSTRACT

***Objective**: To evaluate the results impacts of treating ingrown nail with phenol.*

***Subject and Method**: A prospective study on 22 patients suffering from ingrown nail visiting Dermatological Clinics of Hue Central Hospital and Hospital of Hue University of Medicine and Pharmacy from June 2010 to May 2011.*

***Result**: Clinical features: 22 patients, 05 male and 17 female, most patients are in the age range from 40 to 59 ages (16/22 cases; 72.42%). Predilection site was the big toe: 20/22 cases (90.91%). 5/22 cases (22.73%) came within 6 months after onset. 14/22 cases (63.62%) had surgical intervention before. Trigger factors were improper nail cut (15 cases – 68.18%), excessive sweating (4/22 cases – 18.19%), and pregnancy (3/22 cases – 13.63%). 18 /22 cases (81.81%) came to the hospital at the first and second stage. Evaluating treatment results: pain was absolutely relieved after 1 week in 20/22 cases (90.9%), nail in 22 cases (100%) became smaller than before treatment. 1 case relapsed (4.5%).*

***Key words**: Ingrown nail, bigtoe pain, partial nail avulsion combined with phenolization.*

I. BACKGROUND

Ingrown nail is a common disorder of the nail. The disease can occur in fingernails or toenails, which are the most common nail. Patients were examined at the Dermatology Clinic or Surgery Clinic for treatment. It is caused by many reasons, such as wearing shoes tightly, sweating, improper nail clipping ... In Vietnam, patients were treated with various techniques such as surgery, electrical freezing, CO_2 laser. High or low efficiency of treatment depends on the equipment, and doctor's experience. In Hue, the majority of patients presenting at our clinic have been treated by partically removing the nail, electrical freezing and relapse. To treat ingrown nail with better efficacy, we conducted a study titled "Evaluating the impacts of treating ingrown nail with phenol" with two following objectives:

1. To review clinical features of the ingrown toenail disease before using phenol treatment.

2. To assess the efficiency of phenol treatment to ingrown nail disease.

II. SUBJECT AND METHODS RESEARCH

2.1. Subject

It included 22 patients suffering from ingrown nail visiting Dermatological Clinics of Hue Central Hospital and Hospital of Hue University of Medicine and Pharmacy from June 2010 to May 2011.

2.1.1. Selection criteria :

The patients who had ingrown nails, regardless of gender and did not have severe systemic disease and voluntarily participate in the study.

2.1.2. Exclusion criteria :

The patients who got severe vascular lesions, had

1. Hue Central Hospital
2. Hue University of Pharmacy and Medicine

Corresponding author: Hoang Duc Yen
Email: bshoangducyen@gmail.com
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ingrown nail disease but did not agree to participate in the study.

2.2. Research method:

2.2.1. Study design:

Cross- sectional study.

2.2.2. Implementation process :

- Clinical examination to detect the lesions of ingrown nail disease.
- Filling out the information in the questionnaire and let patients take antibiotics Augmentine 1g 1 hour before the procedure.
- Partically removal of the nails and then phenol 80% application.
- Ask patient to follow-up after 24 hours, day 2, 4 and 6 after treatment to monitor the progression of the disease.

2.3. Data processing

Data is processed by biostatistics, using SPSS software.

III. RESULTS

3.1. The clinical features of ingrown nail before phenol treatment.

Table 1: Sex features

	n	%
Male	5	22.72
Female	17	72.28

Table 2: Geographic features

	n	%
Urban	19	86.37
Rural	03	13.63

Table 3: Age and gender features

Age	Gender		%
	Male	Female	
< 39	01	02	13.64
40 – 49	02	10	54.54
50 – 59	01	03	18.18
60 – 69	0	01	4.54
> 70	0	02	9.09
Total	04	18	100

Table 4: Lesion location features

	n	%
Fingernail	02	9,09
Fingertoe	20	90,91

Table 5: Interventions before phenol treatment

	n	%
Electrical freezing	10	45.45
Surgery	04	18.18
Internal medicine	08	36.37

Table 6: Convenient factors

	n	%
Much sweating	04	18.19
Cutting nails improperly	15	68.18
Pregnant	03	13.63

Table 7: The stages of ingrown nail

	n	%
Stage 1 (Inflammation/ redness/pain)	12	54.54
Stage 2 (Inflammation/ redness/exudation and granulation tissue	06	27.27
Stage 3 (Abces/swelling around the nail)	04	18.19

Table 8: Disease duration

Duration	n	%
< 6 months	05	22.73
7 – 12 months	08	36.36
> 12 months	09	40.90

Table 9: Results after phenol treatment

Result	n	%
Relieving pain (after 1 week)	20	90.9
Smaller than normal nails	22	100
Relapsing	01	4.5
Complications	0	0

Table 10: Desquamation time

Time (date)	n	%
6 – 10	06	27.27
10 – 15	16	72.73
Total	22	100

IV. DISCUSSION

4.1. The clinical characteristics of ingrown nail disease :

In the 22 cases of ingrown nail, female is dominant with 17 cases (77.27%). Most of our patients live in the city, accounting for 86.37% with 19 cases. This result is understandable because it is only in the new city that people have enough time for manicure; thus the incidences of ingrown nail disease also increases. According to Hoa Nguyen and Pham Cao Sy Kiem, female cases get higher proportion (62.2%), and urban population is dominant (73.3%) [1].

The most popular age group of ingrown nail patients is from 30-59 years old, with 19 cases (86.36%), the youngest is 30 and the oldest is 73 years old. According to Palmer & Jones (1979), the majority of cases were male and 85% of them is between 9-29 years of age[2]. In the 22 cases of ingrown nail, big toes have the most common,with 20 cases (90.91%), only 2 cases of fingers (9.09%).

In 22 cases treated with phenol, 14 cases were treated by various methods, including 10 cases of electrical freezing (45.45%) and 4 cases of nail clipping (18.18%) ; medical treatment with mainly antibiotics and pain relief drugs were issued in 8 cases (36.37%). All cases were cured at hospitals and surgical clinics and because of technical mastery treatment and surgery, the high recurrence rate of ingrown toenail disease is reasonable.

Only 5 cases are examined with less than 6 months duration (22.73%), the majority of patients are diagnosed after 6-months (77.27%). Most are due to patients presenting at polyclinics and some were treated with antibiotics and pain relief drugs. This is the reason why patients have late proper treatments.

Regarding to the convenient factors of ingrown nail disease, improper cutting nails causes 15 cases (68.18%); pregnant women who increase 10kg cause 3 cases (13.63%); sweating makes 04 cases (18.19%). Nguyen Sy Hoa, Pham Cao Kiem also have similar comments. As the number of our patients is not high, we have not seen any cases who wear tight shoes like Thomas J. Zuber's remark [3].

There are 12 cases (54.54%) being in phase 1; the numbers of patients who are in phase 2 and 3 are less than phase 1, accounted for 27.27% and 18.19% of the cases respectively.

4.2. Outcome after phenol treatment 80% :

There are 20 cases that relieve pain completly after 1 week of treatment (accounting for 90.90%), this can be explained that ingrown nail parts have been removed. Using phenol 80% was carried out from 1945 by Boll, but so far many countries around the world have been using this method because of its efficiency. Phenol can effect local anesthesia so patients get less pain [4]. Therefore, the number of treated patients who use analgesics such as paracetamol is also very limited. Most of cases wil analgesic were patients with small nails than they did. Subscribing to 6 months after treatment, only 01 case recurs, with 4.5% because tissue samples were not obtained entirely before applying phenol. Our group do not encounter any complications, including 2 cases not using prophylactic antibiotics due to pregnancy; and both didn't have infections

Desquamation time is mostly 10-15 days after treatment. Patient can walk normally on the third day and treatment made little impacts on their jobs. The success rate of our group is 95.5%, slightly higher than that of Eekhof JA (2012) and the results are nearly equivalent to that of CO_2 laser treatment of Nguyen Sy Hoa and assistants (2006).

Table 11: Comparing the results with the treatment

Authors	Treatments	Relapsing
Eekhof J.A.(2012)	partically removing nails	41%
	partically removing nails + phenol	14%
Ng.Sy Hoa and assistants (2006)	Laser CO_2	0%
Dermatological and Venerological Clinics of Hue Central Hospital (2011)	partically removing nails + phenol	4,5%

V. CONCLUSION

5.1. The clinical characteristics of ingrown nail disease :

- Women were dominant with 17 cases (72.28%), most of cases are in the city 19 cases (86.37%).
- 30 to 59 years old is the most popular age group that get this disease, with 19 cases (86.36%).
- Big toes are the most common, with 20 cases (90.91%), 2 cases of fingernails (9.09%).
- 14 cases were treated by different methods: 45.45% electrical freezing, 18.18% partically removing nails; 36.37% medical treatment.
- 22.73% and 77.27% of patients have examined before and after 6 months as that order.
- The ease factor for the onset of ingrown nails: 69.18% improper cutting nails, 13.63% increasing over 10kg due to pregnancy, 9.09% sweating.
- Patients examined in stage 1: 54.54%, the numbers of patients who are in stage 2 and 3 are less than phase 1, with 27.27% and 18.19% respectively.

5.2. Results of phenol treatment :

- Reduce pain completely after 1 week of treatment, the proportion of 90.95%
- Nails are slightly smaller than they were pre-treatment, with 100%
- Success and recurrence rates are 95% and 4.5% as that order respectively.
- Complications 0%

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