

Study of Nail Diseases in South Karnataka Population

Srinivas K¹, Nanda K²

How to cite this article:

Srinivas K, Nanda K. Study of Nail Diseases in South Karnataka Population. RFP Journal of Dermatology 2020;5(1):9-12.

Author Affiliation:

¹Associate Professor in Dermatology,
Department of Skin and V.D.,
Akash Institute of Medical Science
and Research Centre,
Prasannahalli Road, Devanahalli,
Bangalore 562110, India.

²Assistant Professor,
Department of Biochemistry, ESI
Post Graduate Institute of Medical
Science and Research, Rajajinagar,
Bengaluru, Karnataka 560010, India.

Corresponding Author:

Nanda K, Assistant Professor,
Department of Biochemistry, ESI
Post Graduate Institute of Medical
Science and Research, Rajajinagar,
Bengaluru, Karnataka 560010, India.

E-mail: dr.ukm1991@gmail.com

Abstract

Background: 150 patients of both sexes aged between 18 to 65 years were studied for different nail diseases to rule out the cause.

Method: The patients who were visiting to OPD of Skin with complaint of nails were studied. To confirm the onychomycosis nail samples were processed by direct microscopy of the KOH mount followed by two sets of culture on Sabouraud's Dextrose Agar and incubated at 25°C and 37°C and were examined once a week for a period of 4-6 weeks to look for fungal causative agent. The routine Blood examination were carried out to rule out Anaemia (Hb%), Diabetic mellitus, Eosinophilic count.

Results: 58(38.6%) had onychomycosis, 11(7.3%) pseudomonas nail infection, 13(8.6%) acute paronychia, 16(10.6%) periungual verrucae, 4(2.6%) of psoriasis, 7(4.6%) lichen planus, 2(1.3%) alopecia Areata, 5(3.5%) chronic paronychia, 6(4%) longitudinal melanonychia, 7(4.6%) longitudinal Erythronychia, 9(6%) subungualexostosis, 12(8%) digital nail cyst.

Conclusion: This pragmatic approach towards nail diseases at different ages, in both sexes will certainly help the physician, dermatologist to treat efficiently because most of the nail diseases are neoplastic and life threatening.

Keywords: Nail; Onychomycosis; Paronychia; Subungual tumor, Melanonychia.

Introduction

Nail changes are common presenting complaints of patients. Clinical evaluation can be challenging, and the differential diagnosis at times is broad. However, familiarity with several common diagnosis and their appropriate evaluation can improve care of the patient with nail complaint.¹ Inflammatory non-infectious diseases of the nail are not uncommon. The nail changes may look different in the same diseases but also very much alike in various different nail disorders depending on which particular structure of the nail apparatus is involved.² of all skin diseases onychomycosis (fungal infection) common disorder of nail plate, accounting for half of the reported nail diseases.^{3,4} Psoriasis and lichen planus involved frequently nail, adjacent skin and mucous membranes. Most

of the auto-immune dermatosis may also affect the nails but changes not clinically specific. Hence attempt was made to evaluate the various nail diseases in different age groups.

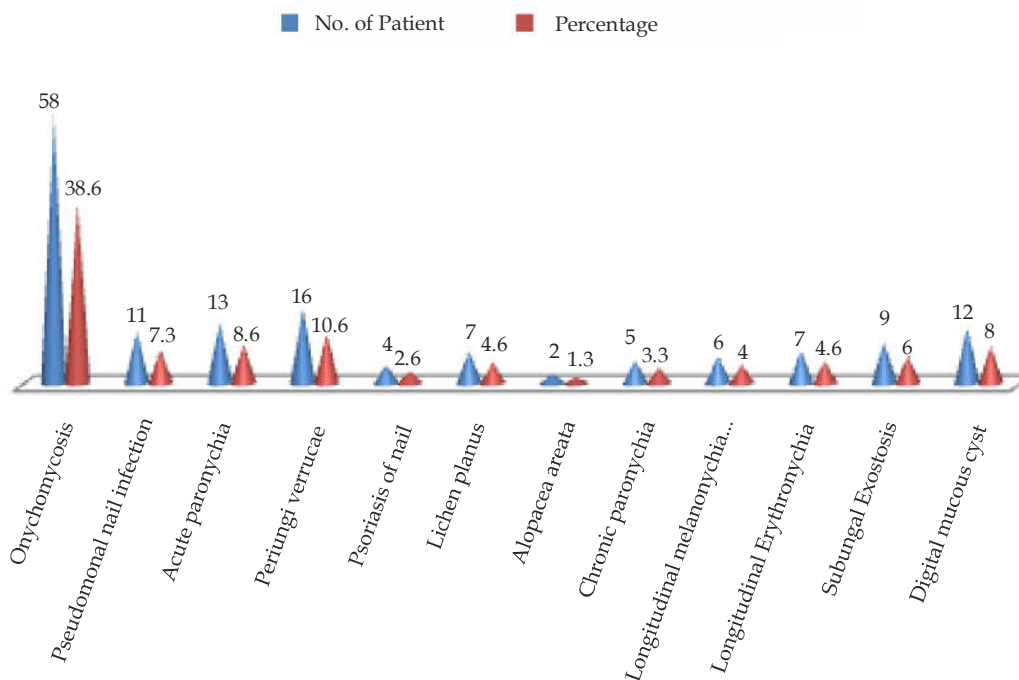
Observation and Results

Diseases of the nail: Diseases of the nail 58(38.6%) onychomycosis, 11(7.3%) had pseudomonal nail infection, 13(8.6%) acute paronychia, 16(10.6%) periungual verrucae, 4(2.6%) psoriasis of nail, 7(4.6%) lichen planus, 2(1.3%) alopecia areata, 5(3.3%) chronic paronychia, 6(4%) longitudinal melanonychia (neoplasm), 7(4.6%) longitudinal Erythronychia, 9(6%) subungual Exostosis, 12(8%) digital mucous cyst.

Table 1: Diseases of the Nail.

No of Patients 150

Sl No.	Particulars	No. of Patient	Percentage
1	Onychomycosis	58	38.6
2	Pseudomonal nail infection	11	7.3
3	Acute paronychia	13	8.6
4	Periungual verrucae	16	10.6
5	Psoriasis of nail	4	2.6
6	Lichen planus	7	4.6
7	Alopecia areata	2	1.3
8	Chronic paronychia	5	3.3
9	Longitudinal melanonychia (meoplasm)	6	4
10	Longitudinal Erythronychia	7	4.6
11	Subungual Exostosis	9	6
12	Digital mucous cyst	12	8



Material and Method

150 patients of both sexes aged between 18 to 65 years. Who were regularly visiting skin and VD OPD of Dr. B. R. Ambedkar Medical College, Hospital Kadugondanahalli, Bangalore-560045 (Karnataka), were selected for study.

Inclusion Method: The patients belonged to middle socio-economic status and majority of them were labors exposed to dust, chemicals etc. Were selected for study.

Method: To confirm the onychomycosis nail samples were processed by direct microscopy of the KOH mount followed by two sets of culture on Sabouraud's Dextrose Agar and incubated at

25°C and 37°C and were examined once a week for a period of 4–6 weeks to look for fungal causative agent. The routine Blood examination was carried out to rule out Anemia (Hb%), Diabetes mellitus, Eosinophilic count. The duration of study was about two years (2008–2010).

Exclusion Method: The patients having neurological and cardiovascular complication associated with nail diseases were excluded from the study.

Statistical Analysis: The patients having different clinical manifestation of Nail diseases were classified with percentage. The ratio of male and females were 3:1.

Discussion

In the present study of diseases of nail at different ages in South Karnataka population of both sexes-58 (38.6%) onychomycosis, 11 (7.3%) pseudomonas nail infection, 13 (8.6%) acute paronychia, 4 (2.6%) psoriasis of nail, 7 (4.6%) lichen planus, 2 (1.3%) alopecia areata, 5 (3.3%) chronic paronychia, 6(4%) longitudinal melanonychia (neoplasm), 7 (4.6%) longitudinal Erythronychia, 9(6%) subungual Exostosis, 12 (8%) digital mucous cyst (Table 1). These findings were more or less enlargement with previous studies.⁵⁻⁷

Nail diseases or deformity of the nail, although the nail is a skin appendage, have distinct classification as they have their own signs and symptoms which may relate to other medical conditions. Hence nail shows signs of infection or inflammation which may require medical assistance. Onychia is an inflammation of the nail folds with formation of pus and shedding of the nail. Which results from the introduction of microscopic pathogens through small wounds, while onychocryptosis is commonly known as ingrowing nails; moreover no known pathognomic nail signs of human immuno deficiency virus infection, Candida is a primary pathogen of nail bed and nail plate. A destructive almost granulomatous like psoriatic involvement, squamous cell carcinoma of the nail bed commonly observe in young adults.⁷ In addition to this subungual hematoma or unguis warts may be due to nail tumours caused by human papilloma virus (HPV) associated with squamous cell carcinoma.⁸

Onychomycosis is a fungal infection of nails caused by dermatophytes, yeasts and moulds, accounting for about 50% of onychopathies. A high frequency of onychomycosis caused by candida species reported in India and abroad.⁹ The treatment of onychomycosis often require prolonged treatment. Pseudomonas nail infection is the most common organism implicated in bacterial infection of the nail pseudomonas nail infection presents blue-green discoloration beneath the nail typically associated with onycholysis.¹⁰ Acute paronychia is bacterial infection of the proximal and lateral nail fold. Lichen planus can occur in association with either skin or mucosal lichen planus or associated nail unit involvement.

Alopecia areata occurs commonly in young patients, in which nail changes more commonly

tend to present simultaneously with hair loss. But rarely can proceed following hair changes by months or years.¹¹

Chronic paronychia is considered as form of contact dermatitis related to chronic exposure to irritants or allergens, It is common in patients with ongoing exposure to wet work and other irritants such as food handlers, health care professionals and cleaners.¹² Although candida and bacteria can frequently to be isolated from the affected digits. Longitudinal melanonychia or pigmented band of nail plate, presents as a tan brown, or black stripe that originate as pigmented nail formation. Differential diagnosis includes inherited syndromes, systemic disease (vit B12 deficiency and Addison's disease), drug related, trauma (results intraungual hemorrhage or melanin deposition) fungal infection, melanoma. Longitudinal Erythronychia or red band of the nail associated with splinter hemorrhages in the area of red discoloration. It is nail bed papilloma. Subungual exostosis is a tumor of bone, which presents as a painful hyperkeratotic nodule of the digit frequently associated with onycholysis and deformity of nail plate. Digital mucous cyst (myxoid cyst) (DMC) is a common cystic growth of the nail unit. DMC presents as a firm nodules overlying distal inter pharyngeal joint. DMC are thought to be either reactive or caused by herniation of the synovium. DMC commonly occur overlying joint affected by osteoarthritis.

Summary and Conclusion

The present study of nail diseases in South Karnataka population is quite useful to physician and dermatologist. Nail diseases includes infectious, inflammatory and neoplastic conditions. Onychomycosis is a common nail disease. Inflammatory condition of nail unit can mimic onychomycosis. Subungual tumors often require biopsy. This present study further demands genetic, embryological and nutritional studies because nails are epidermal appendages developed as a modification involving mainly stratum lucidum of epidermis, moreover nails are seen at the end of third month of fetal life. The exact mechanism of formation of nail is still unclear

This research work is approved by the ethical committee of Dr. B. R. Ambedkar Medical College, Kadugondanahalli, Bangalore 560045 (Karnataka).

Conflict of Interest: No

Funding: No

References

1. Auren K Biesbroek, Philip Fleckman Nail disease for the primary care provider med. Clin. N Am 2015;99:1213-26.
 2. Gurucharansingh, Nayeem Sadath Haneef, Uday. A-Nail changes and disorders among the elderly. Ind-J Dermatology, Venerology and leprology 2005;7(6):386-92.
 3. Ameen M, Lear JT-British Association of dermatologists guide lines for the management of onychomycosis Br-J-Dermatol. 2014;171(5):937-58.
 4. Gupta A K, Daige D-Prevalence of culture confirmed toe nail onychomycosis in at risk patient populations J Eur Acad Dermatol. Venereol 2015;29(6):1039-44.
 5. Haneke E-Non-infectious inflammatory disorders of the nail apparatus. J Dtsch. Dermatol Ges. 2009; Sep7(9):787-97.
 6. Ravinder kour, prgyan swagatika panda, shahnawaz khan. Int. J of commun med. And public health. 2017;4(12):4532-37.
 7. Tosti A, Iovizzo. M-The nail in systemic diseases Dermatol. Clin 2006;24(3):3417.
 8. Jordanaherschthal, Michxel. P-Management of ungula warts. Dermatologic therapy 2012, wiley online library <http://online.library.wiley.com/doi/abs/10.1111/1529-8019.2012.01509> viewed on 4-3-2019.
 9. Tereza Elizabeth fernandesmeireless-successive mycological nail test for ancyomycosis a strategy to improve diagnose efficiency Broz J Infect Dis 2008;12(4):1678-91.
 10. Bae.y, Lee GM-Green nail syndrome treated with the application of tobramycin eye drop Ann. Dermatol. 2014;26(4):514-6.
 11. Papadopoulos. A.J. Schwartz R.A-Alopecia areata pathogenesis, diagnosis, and therapy. Am J. ClinDermatol. 2000;1(2):101-5.
 12. Rigopoulos. D Gregorius-Efficacy and safety of tocrolimus ointment 0.1% vsbetamethasane 17-valerate 0.1% in the treatment of chronic paronychia an unblended randomized study. Br J. Dermatol. 2009;160(4):858-60.
-