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Dermoscopic findings and clinical profile of dermatological nail disorders

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Abstract:
Background- *To diagnose and monitor nail disorders correctly have been a challenge for treating dermatologists. Diagnosis of nail disorders with unaided eyes is very difficult and confusing clinically. So many a times we need additional diagnostic procedures to improve the clinical outcome. Onychoscopy, is a non invasive technique to see subtle nail changes, hence aid in diagnosis. The objective of the study to examine dermoscopic features in various nail disorders.*
Methods- *162 patients were recruited in cross sectional descriptive study with evident dermatological nail disorders. After thorough clinical examination, all nails were subjected to dermoscopic examination by USB Dermatoscope (AM 7515MZT Dino-Lite edge).*
Results- *A total of 162 patients 86 males and 76 females) were screened for onychoscopic findings. Patient ages ranged from 11 years to 61 years (Mean age : 39.27 years). The various nail disorders in decreasing order of frequency were as follows: psoriasis (51), onychomycosis (33), eczema (24), alopecia areata (20), lichen planus(17) and connective tissue disorder(16) .Oncholysis most common finding seen in psoriasis and onychomycosis with difference of erythematous halo on proximal onycholytic area in psoriasis. Pitting most common feature seen in alopecia areata and eczema. Trachyonychia and nail plate deformity seen in lichen planus.*
Conclusion- *Nail dermoscopy can be used as an important adjunctive diagnostic tool for various nail disorders. It can also detect changes at an early stage and can avoid delay in treatment plan.*
Keywords- *Onychoscopy, proximal nailfold capillaroscopy, psoriasis*

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I. Introduction

Clinical diagnosis of skin disorders, including hair and nail disorders is not always straightforward[1]. The need for more objective evaluations of nail within the field of dermatology is increasing and popularly known as onychoscopy.[2] Nail disorders comprise approximately 10% of all the dermatological conditions.[3] Timely and early interference is needed to prevent permanent dystrophy.

Onychoscopy (dermatoscopy of nail) is been used increasingly as a diagnostic modality for various nail disorders. Initially it was limited for nail pigmentation and nailfold capillaroscopy study, but being evaluated in various infectious and inflammatory nail diseases as well.[4]

In this study, we have focused on the dermoscopic features of various dermatological nail disorders with help of non invasive diagnostic tool known as dermoscope which visualizes nail changes not normally visible to the unaided eye and enhances the exsiting findings.

II. Materials And Methods

This descriptive observational study was carried out on patients of Department of Dermatology, Venereology and Leprosy at Shri Mahant Indiresh Hospital, Patelnagar, Dehradun, Uttarakhand from December 2019 to May 2021. A total of 162 subjects (both male and female) were recruited for this study.

Study Design: Descriptive and cross sectional analytical study.

Study Location: The study will be conducted in the Out-patient Department, Department of Dermatology, Venereology and Leprosy, Shri Mahant Indresh Hospital, Dehradun.

Study Duration: December 2019 to May 2021

Sample Size – 162 patients

Subjects & Selection Method: For the purpose of the study

Patients with nail changes with clinical diagnosis of various dermatological diseases were included in the study.

- Autoimmune disorders-Alopecia areata, Connective tissue disorders like Systemic Sclerosis, Systemic lupus erythematosus, Discoid Lupus Erythematosus
- Inflammatory Dermatosis – Psoriasis, Lichen Planus, Eczema
- Infectious Dermatosis- Onychomycosis

Inclusion Criteria:

1. Patient with chief complaint dermatological nail disorders.
2. Patients of all ages and both sexes and irrespective of treatment status.
3. Patients who consent for the study.

Inclusion Criteria:

1. Nail involvement in systemic diseases.

Methodology

All patients satisfying the inclusion criteria presenting to dermatology OPD will be recruited for the study after an informed consent. A detailed history shall be taken using a uniform proforma including duration, site of onset. All the details were recorded in a proforma .

All patients shall be subjected to clinical examination. Clinical photographs shall be taken in uniform lighting. Diagnosis is verified by a qualified dermatologist.

Investigations-

1. Dermoscopy- minimum three sites.
2. Baseline hemogram, Liver function test, Renal function test, blood sugar (fasting, post prandial), ANA Profile, Coagulation profile, if required.
3. Skin biopsy and nail biopsy if required.

Statistical Analysis

Statistical analysis was done using software (SPSS, version 20.0 statsitical package). Continous variables were evaluated using mean and standard deviation. P value was considered significant if it was <0.05.

III. Results

After enrolling the patients the data were collected and analysed and following results were attained. A total of 162 patients (86 males and 76 females) with ratio were screened for onychoscopic findings. Patients ages ranged from 11 to 88 years (mean age :39.27±15.53). Young adult with age group ranged from 21 to 30 years constitute the major group.

The various nail disorders in decreasing order of frequency were as follows: psoriasis (51), onychomycosis (33) , eczema (24), alopecia areata (20) , lichen planus (17) and connective tissue disorders that include discoid lupus erythematosus (1), systemic lupus erythematosus (9) and systemic sclerosis (6) that makes total of 16 patients in this group and one patient having features of both onychomycosis and psoriasis. The study distributed the dermatological nail disorders into 3 groups : (1) inflammatory dermatoses that includes psoriasis , eczema and lichen planus, (2) autoimmune dermatoses that includes alopecia areata and connective tissue disorders (3) infectious dermatoses that include onychomycosis and study onychoscopic features in these dermatoses.

The study included 51 (31.48%) patients with psoriasis and diagnosis was based solely on clinical examination. The changes noticed in the study were pitting that was irregular in size and shape, subungual hyperkeratosis , splinter hemorrhages with color ranging from brown to red , capillary prominence in onychodermal band , proximal jagged margin with erythematous halo , red to orange salmon patches , onycholysis , and nail plate deformity.

The next common nail disorder was onychomycosis, which was seen in 33 (22.37%) patients. Onychoscopic findings in these patients shows nail plate deformity with ruinous pattern , aurora borealis pattern onycholysis, spikes , proximal jagged margin without halo, subungual hyperkeratosis and chromonychia with brown to black colour discoloration of nail.

Eczema, another common disorder was observed in 24 patients. The nail pattern changes that were seen on onychoscopy included pitting, onycholysis, trachyonychia and nail plate deformity.

Alopecia areata, another common disorder seen in 20 patients . Onychoscopic findings were pitting, onycholysis, splinter hemorrhage, trachyonychia and nail plate deformity.

Lichen planus seen in 17 patients was also common disorder that involves nail. Nail involvement seen in patients . Onychoscopic findings were trachyonychia, nail plate deformity, onycholysis and leukonychia.

Onychoscopic examination of proximal nail fold capillaries done in patients with connective tissue disorders . In this study we examined 16 (9.88%) patients with connective tissue disorders :1 with discoid lupus erythematosus , 9 with systemic lupus erythematosus and 6 with systemic sclerosis. In systemic sclerosis we observed capillary dilatations, giant capillaries , avascular areas and microhemorrhages. In SLE, we observed tortuous capillaries , capillary dilatations and microhemorrhages. Microhemorrhages seen both in systemic sclerosis and systemic lupus erythematosus .

Table no 1: Shows different capillaroscopic findings in connective tissue disorders

Diagnosis	Tortuous	Dilated	Giant	Avascular areas	Micro Hemorrhages	Total (patients)
Discoid lupus erythematosus	1(100%)	0	0	0	0	1
Systemic lupus erythematosus	9 (100%)	1(11.11%)	0	0	4(44.44%)	9
Systemic sclerosis	0	2 (33.3%)	5(8.33%)	2(33.3%)	2(33.3%)	6

Table no 2: Shows different dermoscopic pattern in nail and their associations is seen in different types of dermatosis

Different dermoscopic pattern	Autoimmune disorders	%	Infections dermatosis	%	Inflammatoy dermatosis	%	Total	%	Chi-square	p-value
Onycholysis	1	2.78	18	54.55	27	29.03	46	28.40	22.7370	0.0001*
Proximal jagged margin without erythematous halo	0	0.00	3	9.09	1	1.08	4	2.47	7.6700	0.0220*
Proximal jagged margin with erythematous halo	0	0.00	14	42.42	3	3.23	17	10.49	45.2720	0.0001*
Subungual hyperkeratosis	0	0.00	14	42.42	13	13.98	27	16.67	23.4480	0.0001*
Aurora Borealis	0	0.00	2	6.06	0	0.00	2	1.23	7.9160	0.0190*
Spike	0	0.00	11	33.33	1	1.08	12	7.41	40.6570	0.0001*
Chromonychia	0	0.00	14	42.42	0	0.00	14	8.64	59.9040	0.0001*
Pitting	7	19.44	0	0.00	25	26.88	32	19.75	11.1070	0.0040*
Splinter Hemorrhage	1	2.78	0	0.00	19	20.43	20	12.35	13.3100	0.0010*
Leukonychia	2	5.56	5	15.15	18	19.35	25	15.43	3.7890	0.1500
Trachyonychia	4	11.11	0	0.00	13	13.98	17	10.49	5.0860	0.0790
Salmon Patch	0	0.00	0	0.00	4	4.30	4	2.47	3.0430	0.2180

*$p<0.05$

Table no 3: Shows association between diagnosis with different dermoscopic pattern in different dermatosis

Different findings	AA	DLE	Eczema	LP	OM	Psoriasis	SLE	SSc	Total	p-value
Onycholysis	1	0	1	4	18	22	0	0	46	0.0001*
Without erythematous halo	0	0	0	0	3	1	0	0	4	0.3310
With erythematous halo	0	0	0	0	14	3	0	0	17	0.0001*
Subungual hyperkeratosis	0	0	0	0	14	13	0	0	27	0.0001*
Aurora Borealis	0	0	0	0	2	0	0	0	2	0.3400
Spike	0	0	0	0	11	1	0	0	12	0.0001*
Chromonychia	0	0	0	0	14	0	0	0	14	0.0001*
Pitting	7	0	9	1	0	15	0	0	32	0.0010*
Splinter Hemorrhage	1	0	0	0	0	19	0	0	20	0.0001*

Leukonychia	2	0	5	2	5	11	0	0	25	0.6120
Trachyonychia	4	0	3	9	0	1	0	0	17	0.0001*
Salmon Patch	0	0	0	0	0	4	0	0	4	0.2770
Tortous	0	1	0	0	0	0	9	0	10	0.0001*
Dilated	0	0	0	0	0	0	1	2	3	0.0001*
Giant	0	0	0	0	0	0	0	5	5	0.0001*
Avascular areas	0	0	0	0	0	0	0	2	2	0.0001*
Capillary Prominence Oychodermal band	0	0	2	0	1	11	0	0	14	0.0200*
Nail Plate Deformity	4	0	6	8	5	4	0	0	27	0.0080*
Micro haemorrhage	0	0	0	0	0	0	4	2	6	0.0001*

*$p<0.05$

AA-Alopecia Areata, DLE- Discoid Lupus Erythematosus,OM- Onychomycosis,LP- Lichen Planus ,SLE-Systemic Lupus Erythematosus, , Ssc- Systemic Sclerosis

IV. Discussion

According to the results, this study includes 162 patients with mean age of 39.27 years with male to female ratio of 1.13:1 that was comparable to Varma at el. study.[5] In our study there is male preponderance because male visit health care facilities more frequently than females. Mean duration of disease in our study was 1.99 which was slightly higher as compared to Varma at el study.[5] as our study has more number of patients. Maximum patients belonged to age group of 21-30 yrs. This was attributed to the fact that this group of people were more concerned for their health. Fingernails (41.98%) were more frequently involved as compared to toenails (16.05%) in our study which was comparable to Varma at el.[5]**.** This is because of cosmetic concern, fingernails have led to higher medical approach to health facilities. Varma at el.[5] found semi – skilled workers attending the OPD most followed by housewives which is different in our study where housewives (32.10%) were the most common group followed by students (16.05%) that was comparable to Rathod et al. study[3] where housewife (30.8%) constitute the most common OPD cases followed by students (23.2%). This is mainly because of cosmetic issues in females and increased awareness in students.

Our study categorized dermatological disorders into inflammatory dermatosis (psoriasis, lichen planus and eczema), infectious dermatosis (onychomycosis) and autoimmune dermatosis (alopecia areata and connective tissue disorders) to study different dermoscopic findings in the nails of the patients. The major burden of disease in dermatology OPD is made by inflammatory dermatosis (57.41%) followed by autoimmune dermatosis (22.22%) followed by infectious dermatosis (20.37%)**.**

Psoriasis was the most common dermatosis observed in our study with the mean age of 37.5 years which was comparable to Varma at el. [5] with 38.6 years but lower than that of Wanniang at el.[6] and Yorulmaz at el.[7] with 45.02 years and 43.02 years respectively. This was mainly due to higher awareness with regards to personal grooming. Male preponderance was noticed in our study which is also observed in Yormulaz at el.[7] , Varma at et.[5] ,Wanniang at el.[6] , and Chauhan at el.[8] study. Fingernails (39.22%) more commonly involved than toenails (11.76%) in our study. Fingernails involvement more than toenails also observed in Varma at el.[5] and Chauhan at el.[8] study.The most common observation in our study was onycholysis (43.41%) which was comparable to Varma at el. (84.4%) study[5] that was done in different nail disorders in tertiary care centre. Psoriatic onycholysis is bordered by a distinct erythema and the edge of distal border of onycholysis is relatively straight and not jagged that is similarly observed in Varma at el.[5] , Chauhan at el.[8] and Yorulmaz at el.[7] study with onycholysis 68.8%, 40.8% and 55.2%.

Splinter hemorrhages (37.25%) was the second most common observation in our study while it was the most common dermoscopic feature in studies by Wanniang at el.[6] (84%) and Yorulmaz at el.[7] (73.1%) study which was dermoscopically seen as reddish brown to purplish black streaks arranged longitudinally, mostly appreciated in distal nail. Pitting (29.41%) was the next common finding in our study, while most common finding in Varma at el.[5] (79.2%) and Chauhan at el.[8] (60.5%) study. Subungual hyperkeratosis could be appreciated in 25.49% in patients and was regarded as non – ruinous (compact and non- destructive) as opposed to onychomycosis that was percieved more clearly with dermoscope. In a previous study by Varma at el.[5] and Chauhan at el.[8] subungual hyperkeratosis were reported in 66.7% and 52.8% of cases, respectively. Varma at el.[5] observed capillaries along onychodermal band were dilated and prominent and surrounded by whitish halo in 6.3% cases while in our study similar dermoscopic finding was found in 21.57% due to higher magnification used. Dilated

nail bed capillaries were observed in nail and visualized as bright red to dusky coloured dilated vessels that arranged parallel to onychodermal band of nail plate. Dermoscopy appreciates these vessels well. Other dermoscopic finding observed in our study were salmon patch (7.84%) and leukonychia (21.57%). In the previous study done by Varma at el.[9] salmon patch and leukonychia were reported in 10.4% and 14.5% respectively, and Yorulmaz at el.[7] reported these findings in 22.4% and 6% cases respectively. Nail plate deformity and trachyonychia was appreciated in 7.84% and 1.96% cases.

Onychomycosis was the second most common nail dermatoses after nail psoriasis, This was concordant with Rathod at el.[3] study where onychomycosis was the second most common dermatoses while Varma at el.[5], Bhat at el[10] observed it as the most common dermatosis. Our study has male prepondrance which is dissimilar to Vasava at el.[11] that had female preponderance . This may be due to our study have small sample size of our study. Majority of patients in Vasava et al.[11] belong to age group 40-50 yrs followed by 30-40 yrs while in our study the majority of patient belong to 31-40 yrs . This is mainly due to the fact that adults are more conscious about their appearance and more aware about health. Fingernails are more commonly involved in Vasava at el[11] (2021) study which is contradictory to our study where both fingernails and toenails are most commonly involved. In our study onycholysis (54.55%) is the most common dermoscopic finding which is comparable to Kayarkatte at el.[12] study (96.6%). In our study we observed sharp demarcation between the affected nail and the normal nail which is consistent with all studies done in the past. Our study observed spiked pattern in 33.33% patients. Spiked pattern was described by Yadav at el.[13] as white, irregular streaks that demarcates the involved nail area of onychomycosis that is similar in our study. We observed spike pattern in nail plate to be statistically significant ($p<0.05$)**.** We observed chromonychia in 42.42% patients in our study to be statistically significant ($p<0.05$) and in 1.23 % observed aurora borealis pattern that was described as area of various colour ranging from blue – gray to greenish – blue to black to whitish yellow in the area of onycholysis by Ankad at el.[14]. Subungual hyperkeratosis is observed in 42.42% patients that is ruinous in nature . The association of subungual hyperkeratosis with onychomycosis was found to be statisically significant ($p<0.05$). In the present study , leukonychia was studied independently and found in 15.15 % of patients . Proximal jagged margin was observed in 18.18% cases in our study. Piraccini at el.[15] too observed a sharp jagged edge of the proximal end and compared it with traumatic onycholysis while Yadav at el.[13] observed that traumatic onycholysis had a linear edge without the sharp spiked border. Spiked pattern and proximal jagged margin along with chromonychia, subungual hyperkeratosis and onycholysis on onychoscopy are the findings that supplement the clinical diagnosis.

Our study includes 16 (9.88%) patient of connective tissue disorders with 3.70% of systemic sclerosis patients ,5.56% of Systemic lupus erythematosus and 0.62% of discoid lupus erythematosus which is comparable to Ankad at el.[16] study with 16 patients. Mean age of patients in our study was 36.28. 100% of patients were females which was comparable to Chojer at el.[17] with 86.7% of females . Majority of patients belong to age group 21-30 yrs in our study which is comparable to Chojer at el.[16] with majority of patients in age group of 16-30 yrs. Ankad at el.[16] observed giant capillaries (81.25%) as the most common capillary finding in the study followed by tortuous capillaries (68.75%) while in our study tortuous capillaries (100%) was the most common finding. Giant capillaries was only found in 8.33% patients in our study which is contradictory to Ankad at el.[16]. This maybe due to other connective tissue disorders included in the study. Microhemorrhages were observed in 44.44% of patients which is comparable to Ankad at el.[16] (43.75%) study. Out of 16 patients, 10 patients are of lupus erythematosus (9 of systemic lupus erythematosus and 1 of discoid lupus erythematous) with no scleroderma pattern and show 100% tortuous capillaries, 11.11% dilated capillaries and 44.44% microhemorrhages in proximal nail folds. Ankad at el.[16] also not found classical scleroderma pattern in any of the patient in their study. Bergman at el.[18] observed scleroderma pattern in 1 out of 22 systemic lupus erythematosus patients.

Out of 16 patients, 6 patients are of systemic sclerosis with scleroderma pattern with 33.3% giant capillaries and microhemorrhages each followed by avascular areas (8.33%) in our study. Ankad at el.[16] (2019) also obseved scleroderma pattern in their study. Chojer at el[17] (2019) studied 16 patients of systemic sclerosis and observed avascular areas (81.25%) as the major capillary changes followed by dilated capillaries (68.75%) . They also observed bushy capillaries and capillary dropouts but these findings are not observed in our study. Similar frequency of nailfold capillaroscopy changes were reported by Bergmen at el.[18] study. The capillaroscopic findings like tortuous capillaries ($p<0.0010$) and giant capillaries ($p<0.160$) were statistically significant in female but avascular areas and dilated capillaries were statistically significant in our study. Proximal nailfold capillaroscopy aids in recognition of alterations in nailfold capillaries making early diagnosis of connective tissue disorders and thus preventing morbidities and sequelae of connective tissue disorders.

Our study includes 17 patients (10.49%) of lichen planus out of 162 patients, where the study by Rathod at el.[3] constitute 14 (5%) out of 250 patients and Varma at el.[5] 5 (5%) out of 126 patients. This discrepancy mainly due to variable number of patients in each study. Kharghoria at el.[19] studied 45 patients of lichen planus with mean age of 36.9 which is comparable to our study 49.4. Our study with male preponderance have male to female ratio 1.29:1 which is comparable to Kharghoria at el.[19] study with male to female ratio 1.18:1. Presentation of disease in patients from 11 to 70 years in Kharghoria at el.[19] which is comparable to our study which is from 19-88 years. Lesions in body with 58.82 % patients followed by oral lichen planus 17.65% and only one patient with nail lichen planus was seen in our study which is dissimilar to Kharghoria at el.[19] study where mucosal lichen planus (51.1%) was most common. The onychoscopic findings demonstrated in nails of lichen planus patients in our study were trachyonychia (52.94%) followed by nail plate deformity (47.06%). Nakamura at el.[20] studied 11 patients with lichen planus and observed that longitudinal fissures was the most common onychoscopic findings. Trachyonychia (40.51%) was studied as one of the onychoscopic finding . Longitudinal fissures were seen in all studies in the past by Rathod at el.[3] ,Bhat YJ at el.[10] and Varma at el.[5] but were not seen in our study, this maybe due to our study discussed nail plate deformity as a broad term. Onycholysis (23.53%) and pitting (5.88%) was observed in our study . Same findings was discussed by Bhat YJ at el.[10] with onycholysis (33.33%) and pitting (44.44%), these dissmilarities were mainly due to more number of patient in Bhat YJ at el.[10] study . Anonychia was seen in 1.3% cases of Nakamura et al.[20] and 44.4% patients of Bhat YJ at el.[10] that occurred due to destruction of nail matrix while not seen in our study and similar finding was also observed in Varma at el.[5] study. Nail involvement of one or all the nail components occurs in 10% of patients with lichen planus . Early diagnosis is therefore essential considering severe consequences of lichen planus disease.

Out of 162 patients, 20 (12.35%) patients are of alopecia areata with no gender predilection seen in our study. Most patients belong to 21-30 years. Scalp is the most common site for loss of hair. Fingernails were most commonly involved in our study.The most common onycholytic finding in our study was pitting (35%) comparable to Varma at el.[5] and Rathod at el.[3] where pitting was most common finding with 100% and 75% respectively. The pits were arranged in random manner. Neerja at el.[21] study observed pits are often uniformly arranged in lines both transversely and longitudinally in a geometrical or scotch plaid pattern. This pattern not observed in our study. Longitudinal fissure was seen in 50% of patients in Rathod at el.[3] study while in our study nail plate changes was seen in 20% cases. Onycholysis (5%), leukonychia (10%) and trachyonychia (20%) were seen in our study. Similar findings were observed in Sumanlatha at el.[22] study . Splinter hemorrhage was seen in 5% of patients that was not much described in the literature. Nail changes are common in alopecia areata, not only seen in extensive alopecia areata but may also observed in minimal hair loss and not imply a poor prognosis.

Eczema was seen in 24 (14.81%) patients out of 162 patients which is comparable to Rathod at el.[3] with 19 (7.6%) of patients. Discrepancy in percentage was due to more number of patients in Rathod at el.[3] study. Male preponderance seen in our study with male to female ratio is 1.4:1 with maximum patients in the age group of 21-30 years. Hand eczema (62.50%) was the most common eczema with nail involvement. Fingernails (45.83%) were more commonly involved than toenails. Dermoscopy of the nails affected by eczema shows pitting (37.5%) in our study. Tiny pits were observed in Ankad at el.[23] study. Leukonychia (20.83%) and trachyonychia (12.5%) was also observed in our study. Nail plate changes (25.0%) were also described in our study. Capillary prominence in onychodermal band was observed in 8.33% in our study. This finding was not mentioned in the literature.

In our study we observed association of dermoscopic findings with different types of nail dermatosis that include inflammatory dermatosis, autoimmune dermatosis and infectious dermatosis. Inflammatory dermatosis (57.41%) was the most common dermatosis in our study. Onycholysis was the most common onychoscopic findings seen in all three nail dermatosis, maximum infectious dermatosis (54.55%) followed by followed by inflammatory dermatosis (29,03%) and only 2.78 % in autoimmune dermatosis which is statistically significant ($p<0.05$)**.**Proximal jagged margins was seen both in infectious and inflammatory nail dermatosis but proximally jagging was less seen in case of inflammatory dermatosis and jagging was followed by erythematous halo in 42.42% patients which is statistically significant ($p<0.05$). Subungual hyperkeratosis was seen more commonly in infectious dermatosis (42.42%) and less commonly in inflammatory dermatosis (13.98%). This finding is statistically significant ($p<0.05$) in our study. Aurora borealis, spike pattern and chromonychia were solely seen in infectious nail dermatosis with 6.06%, 33.33% and 42.42% respectively. All the three findings are statistically significant ($p<0.05$) in our study. Splinter hemorrhage was more commonly seen in inflammatory dermatosis (20.43%) and only 2.78 % in autoimmune disorders and not observed in infectious dermatosis. This onychoscopic finding is statistically significant ($p<0.05$) in our study.

Leukonychia was observed in all three dematosis with 5.56% in autoimmune disorders, 15.15% in infectious dermatosis and 19.35% in inflammatory dermatosis. Trachyonychia was seen 13.98 % in inflammatory dermatosis and 11.11% in autoimmune dermatosis . Salmon patch was exclusively seen in inflammatory dermatosis. Although these findings were not statistically significant but it can used with other findings to help in diagnosis . Capillary prominence in onychodermal band was predominantly seen in inflammatory dermatosis (13.98%) and statistically significant ($p<0.05$) in our study. Nail plate changes was noticed in all groups of nail dermatosis but not statistically significant. There is no statistically significance noticed between gender of the patient and different dermoscopic findings in different nail dermatosis in our study.

V. Conclusion

Onychoscopy is an easier, cost effective, non invasive diagnostic procedure that can allow dermatologists to detect of subtle nail changes not clearly visible to the unaided eye. Thus enhances the exsisting nail changes seen with naked eyes. It can be a great tool in our armamentarium to diagnose nail changes earlier so that treatment can be started earlier and before the much progression of disease and reducing the chances of permanent nail dystrophy. It is very useful in concluding and limiting all the differential diagnosis without doing any invasive procedure. However onychoscopy should not be used as the only diagnostic tool for confirming the diagnosis. To conclude we should incorperate onychoscopy as a routine examination in every patient presenting with nail disorders.

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