



# ONYCHOSCOPE

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Nail Society of India

Official Newsletter of NSI

Vol.3, Issue 2, July 2014

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**Dear Friends!** it's time for yet another issue of ONYCHOSCOPE. This is the 5th issue with all its educative content centered on the nail. The issue features invited faculty article by Dr Vineet Relhan (founder treasurer of NSI) on paronychia, a common yet perplexing disorder. The article demystifies the age old concept of infection as the etiology of this condition. We all acknowledge that with the digitalization of information and information explosion, it has become impossible for us to keep pace with the recent developments. Dr Chander Grover, the founder Secretary NSI, has done an excellent job in compiling the best of 'What's new in Nail disorders', focusing on newer developments in the first half of 2014. In addition, Nail maze and Nail quiz, our extremely popular features are there to nail your 'Nail' knowledge.

We extend our immense thanks and gratitude to each one of you for being with us wholeheartedly in the brief but trail-blazing journey of the Nail Society of India. With one Exclusive CME on nail disorders and two National level conferences 'ONYCHOCON 2012 (Bengaluru) and 2013 (Delhi), to its credit; NSI is well past its infancy and toddler phase. We are on the verge of inaugurating the **3rd ONYCHOCON** (2014) which is being held in Mumbai, under the aegis of NSI (details available in this issue). The venue is the swanky auditorium of Asian Heart Institute, Bandra East, which lies in the heart of the city. The conference is being planned under the dynamic leadership of Dr Sushil Tahiliani, who is a leading dermatologist in Mumbai, with a special interest in the field of nail disorders. A highly stimulating scientific program has been put together by the scientific chairperson Dr Vijay Zawar. **Prof Roman Nowicki**, Poland, a name to reckon with in the field of nail disorders, globally, is the guest international faculty. Knowing the MUMBAIKAR spirit, I can say without an iota of doubt that it is going to be an excellent academic extravaganza for all the participants; faculty and delegates alike.

The **NSI life membership** figure has touched **180**, in the last 30 months. **The NSI facebook page** (<https://www.facebook.com/groups/221382777961447/>) is always bustling with activity. With **1093 members**, not only from India, but from more than 20 nationalities, it is emerging as an effective global think-tank where nail related problems are shared and solutions offered freely. We value the contribution of each and every member and **request for your continued participation**.

Meanwhile, the preparations for the much awaited International event '**3<sup>rd</sup> International Summit on Nail Diseases (ISND) and 4<sup>th</sup> ONYCHOCON**', scheduled to be held on **20th to 22nd Nov, 2015** have already begun. The venue has been finalized and the website will be launched shortly. The event will see a congregation of experts from all over the world.

Before that, I hope to welcome you all in **Mumbai for 3rd ONYCHOCON!**

**LONG LIVE NSI!**

**Dr Archana Singal**



**Nail Society of India (NSI)**

Welcomes you to

**ONYCHOCON-2014**

3<sup>rd</sup> National Conference  
on  
**NAIL DISORDERS**

Date: 13<sup>th</sup>, 14<sup>th</sup> September 2014

**Venue:**

Asian Heart Institute,  
B K C Road, Bharat Nagar, Bandra East,  
Mumbai, Maharashtra - 400005

**Pre-conference surgical workshop**

Date: 12<sup>th</sup> September 2014

Time: 10:00 am - 03:00 pm



## Etiopathogenesis of Chronic Paronychia

**Dr Vineet Relhan, MD**

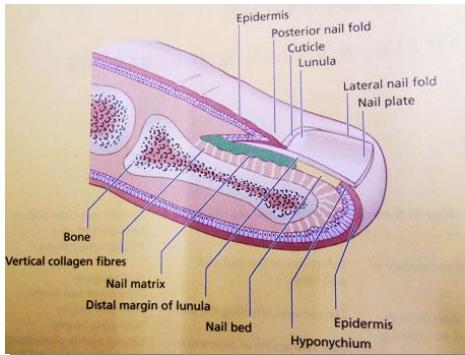
Assistant Professor,  
Department of Dermatology,  
Maulana Azad Medical College and Associated LN Hospital



**Paronychia** (synonymous with peri-onychia) is an inflammatory reaction involving the fold of tissue surrounding a fingernail or toenail. Paronychia occurs in 2 forms: acute and chronic. The etiology, infectious agent, and treatment are usually different for each form, and the 2 forms are often considered separate entities.

### Nail Structure and Function

The nail is a complex unit composed of five major modified cutaneous structures: the nail matrix, nail plate, nail bed, cuticle (eponychium), and nail folds (**Figure 1**). The cuticle is an outgrowth of the proximal fold and is situated between the skin of the digit and the nail plate, fusing these structures together. This configuration provides a waterproof seal from external irritants, allergens, and pathogens



**Figure 1: Nail Structure**

### Acute Paronychia

#### Etiology and Predisposing Factors

The most common cause of acute paronychia is direct or indirect trauma to the cuticle or nail fold. Such trauma may be relatively minor, resulting from ordinary events, such as dishwashing, an injury from a splinter or thorn, onychophagia (nail biting), biting or picking at a hangnail, finger sucking, an ingrown nail, manicure procedures (trimming or pushing back the cuticles), artificial nail application, or other nail manipulation. Such trauma enables bacterial inoculation of the nail and subsequent infection. The most common causative pathogen is *Staphylococcus aureus*, although *Streptococcus pyogenes*, *Pseudomonas pyo-cyannea*, and *Proteus vulgaris* can also cause paronychia. In patients with exposure to oral flora, other anaerobic gram-negative bacteria may also be involved. Acute paronychia can also develop as a complication of chronic paronychia. Rarely, acute paronychia occurs as a manifestation of other disorders affecting the digits, such as pemphigus vulgaris.

### Clinical Manifestations

In patients with acute paronychia, only one nail is typically involved. The condition is characterized by rapid onset of erythema, edema, and discomfort or tenderness of the proximal and lateral nail folds, usually two to five days after the trauma. Patients with paronychia may initially present with only superficial infection and accumulation of purulent material under the nail fold, as indicated by drainage of pus when the nail fold is compressed (**Figure 2**). An untreated infection may evolve into a subungual abscess, with pain and inflammation of the nail matrix. As a consequence, transient or permanent dystrophy of the nail plate may occur. Pus formation can proximally separate the nail from its underlying attachment, causing elevation of the nail plate. Recurrent acute paronychia may evolve into chronic paronychia.



**Figure 2: Acute Paronychia**

### Chronic Paronychia

Chronic paronychia is a multifactorial inflammatory reaction of the proximal nail fold to irritants and allergens. This disorder can be the result of numerous conditions, such as dish washing, finger sucking, aggressively trimming the cuticles, and frequent contact with chemicals (e.g., mild alkalis, acids). Chronic paronychia is a very recalcitrant dermatosis. It is an inflammatory disorder affecting the nail folds. It can be defined as an inflammation lasting for more than 6 weeks continuously and involving one or more of the three nail folds (one proximal and two lateral). The patient presents with complaint of redness, tenderness and swelling, fluid under the skin around nails and thick, discolored nail.

Morphologically it is characterized by induration and rounding off of the paronychium recurring episodes of acute eponychial inflammation and drainage.

It presents clinically as thickening and longitudinal grooving of the nail plate, onychomadesis, transverse striation, pitting, and hypertrophy can be present and are probably due to inflammation of nail matrix. Nail plate may present a green



**Figure 3: Chronic Paronychia**

discoloration of its lateral margins due to *Pseudomonas aeruginosa* colonization.

Cuticle is an outgrowth of the proximal fold and is situated between the skin of the digit and the nail plate, fusing these structures together. This configuration provides a waterproof seal from external irritants, allergens, and pathogens. In chronic paronychia this seal is broken; the irritants enter the space thus created.

Chronic Paronychia commonly afflicts House and office cleaners, laundry workers, food handlers, cooks, dishwashers, bartenders, chefs, nurses, swimmers, diabetes and patients on HIV-ART. It has a complex pathogenesis and is caused by multifactorial damage to the cuticle thereby exposing the nail fold and the nail groove. It is mainly caused by dish washing, finger sucking, trimming the cuticles too much and frequent contact with chemicals.

**Previously it was believed that chronic paronychia is caused by Candida. However recent data reveals that it is a form of hand dermatitis caused by environment exposure. Candida is often isolated.** However in many cases; Candida disappears when the physiologic barrier is restored. Henceforth Chronic paronychia is not a mycotic disease but an eczematous condition with a multifactorial etiology. For this reason, topical and systemic steroids may be used successfully whereas systemic antifungals are of little value.

Topical steroids have been found to be more effective than systemic antifungals in the treatment of chronic paronychia. Although Candida was frequently isolated from the PNF of their patients with chronic paronychia, Candida eradication was not associated with clinical cure of chronic paronychia in most patients.

Tacrolimus 1% ointment has been found to be more efficacious as compared to topical corticosteroids in management of chronic paronychia. There were lesser degree of recurrence of chronic paronychia on follow up in patients treated with Tacrolimus. Hypersensitivity to foodstuff is responsible for an increased incidence in food handlers.

**Pathogenesis of chronic paronychia**-Repeated bouts of inflammation persistent edema, induration, and fibrosis of proximal and lateral nail folds causes the nail folds to round up and retract thereby exposing the nail grooves further.

This loss of an effective seal leads to a persistent retention of

moisture, infective organisms and irritants within the grooves, in turn exacerbating the acute flare-ups. This vicious cycle goes on compromising the ability to regenerate the cuticle. The inflamed and fibrosed PNF progressively loses its vascular supply. This is responsible for failure of medical treatment measures. Topical drugs fail to penetrate chronically inflamed skin, and systemic drugs cannot be delivered to areas of decreased vascular supply. Rare causes of chronic paronychia include- Infections (Bacterial, mycobacterial, or viral), metastatic cancer, subungual melanoma, squamous cell carcinoma, Reynaud disease. Benign and malignant neoplasms should always be excluded when chronic paronychia does not respond to conventional treatment. Chronic paronychia is also a common manifestation of papulosquamous disorders like psoriasis, vesicobullous disorders-pemphigus.

Drug toxicity from medications such as retinoids, epidermal growth factor receptor inhibitors (cetuximab), and protease inhibitors. ART-Indinavir- induces retinoid like effects and remains the most frequent cause of chronic paronychia in patients with HIV disease .Retinoids also induce chronic paronychia. The mechanism can be -nail fragility and minor trauma by small nail fragments have been described as potential causes.<sup>9</sup>Protease inhibitors possibly have a retinoid-like effect over the nails. Paronychia has also been reported in patients taking cetuximab (Erbitux), an anti-epidermal growth factor receptor (EGFR) antibody used in the treatment of solid tumors.

The differential diagnosis includes Squamous cell carcinoma, malignant melanoma, metastases. Clinician should consider the possibility of carcinoma when a chronic inflammatory process is unresponsive to treatment. Any suspicion for the aforementioned entities should prompt biopsy.

## Photo Quiz



A 35 year old male came with complaints of multiple asymptomatic white bands in his fingernails since 2 months. The patient had a history of chronic alcohol consumption and on investigation had been found to have liver cirrhosis and a serum albumin level of 1.9 gm / 100 ml. There was no history of trauma preceding the onset of the bands.

On examination there were 2-3 parallel transverse white bands in the 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> fingernails which spanned the entire width of the nails. The bands disappeared on applying pressure on the nail plate. All toenails were normal in appearance.

**Q A. What is this appearance known as?**

**Q B. What is the most common cause?**

## What's new in Nail Disorders?

Through this regular feature of Onychoscope, we aim to appraise our readers with the latest happenings in the world of Nail. For this issue, I have chosen to present clinically relevant research published in the first half of 2014.

In the field of **Onychomycosis**, research has focused on developing and validating newer diagnostic techniques as well as newer treatment options, particularly topical treatment options.

### **Diagnosis and treatment monitoring of toenail onychomycosis by reflectance confocal microscopy: Prospective cohort study in 58 patients.**

**Pharaon M, Gari-Toussaint M, Khemis Aetval.  
J Am Acad Dermatol. 2014 Jul; 71(1):56-61**

It is well known that the clinical presentation of onychomycosis is quite nonspecific with many other entities presenting with similar nail changes. The available or routinely done tests have many drawbacks. This interesting study was aimed at evaluating the accuracy of reflectance confocal microscopy (RCM) for the diagnosis of onychomycosis. This modality was compared with standard mycologic tests in the form of potassium hydroxide preparation, and fungal culture.

The study enrolled 58 patients with suspected onychomycosis prospectively. RCM and other investigations, were performed at baseline and after treatment in patients with confirmed onychomycosis. An RCM diagnosis of onychomycosis was based on the presence of filamentous and/or roundish structures in the nail plate, corresponding respectively to septate hyphae and/or arthroconidia.

RCM diagnosis was correct in 79.3% patients (sensitivity of 52.9%, specificity of 90.2%, positive predictive value of 69.2%, and negative predictive value of 82.2%). Interestingly, RCM performed after treatment in 9 patients showed a normal nail plate, and this healing was confirmed by mycologic tests or by follow-up.

The other advantage was that the use of a handheld RCM imager permitted a faster examination as compared to standard tests. The disadvantage being that existing RCM scanner heads are not intended for nail examination.

The authors concluded that **RCM has excellent specificity and can be used as a rapid, office-based test to strengthen the prescription of antifungal therapy and for follow-up.** Further technical improvements in this equipment, to ease nail examination, could enhance the sensitivity of his technique.

### **Efinaconazole 10% nail solution: a new topical treatment with broad antifungal activity for onychomycosis monotherapy.**

**Gupta AK, Paquet M.  
J Cutan Med Surg. 2014 May-Jun; 18(3):151-5.**

In the treatment of onychomycosis, topical therapies are associated with less adverse events; however, traditionally,

poor nail penetration limits their efficacy. A new and promising entrant in this scenario is Efinaconazole 10% nail solution.

This review summarizes the evidence with respect to the efficacy of efinaconazole monotherapy in onychomycosis. The review is based on data gleaned from the sites PubMed and clinicaltrials.gov databases; and from abstracts presented at the 2013 annual meeting of the American Academy of Dermatology; by using the terms "efinaconazole," "IDP-108," and "KP-103", these being the names for this research molecule.

According to the review, ***in vitro* efinaconazole shows broad spectrum antifungal activity similar or superior to that of other antifungals.** A major plus point is its **low affinity for keratin**, which **ensures a good nail penetration** into the affected plate and subungual area. Its use has been evaluated mostly in mild to moderate toenail onychomycosis caused by dermatophytes. **A daily application of the solution for duration of 36-48 weeks** has resulted in complete and mycologic cure rates of 15-25% and 53-87%, respectively. It is a promising new treatment with no major serious skin reaction noted with its use.

### **Controlled release injectable containing Terbinafine/PLGA microspheres for onychomycosis treatment**

**Angamuthu M1, Nanjappa SH, Raman V et al.  
J Pharm Sci. 2014 Apr;103(4):1178-83.**

Oral terbinafine is of established efficacy in the treatment of onychomycosis; however, newer techniques for topical therapy or local delivery of this wonderful drug are being developed and evaluated. This study evaluates a **controlled-release drug delivery system based on biodegradable polymers**, which has been otherwise extensively evaluated for other indications for localized drug delivery.

The formulation evaluated in this study is an intralesional injection of poly (lactide-co-glycolide) (PLGA) microspheres which offer controlled release of terbinafine hydrochloride (TH). This formulation has been developed for treating fungal nail infections.

TH-PLGA microspheres are formulated using O/W emulsification and modified solvent extraction/evaporation technique. They are then evaluated for particle size and size distribution, encapsulation efficiency, surface, and morphology. The article comments on the ***in vitro* drug release profile**, studied in aqueous media as well as in 1% agar gel. These microspheres have also been evaluated in excised cadaver toe model, and extent of TH accumulation in nail bed, nail plate, and nail matrix has been measured at different time points. The article reports that the **microspheres provide consistent and sustained TH release**.

### **Randomized controlled trial comparing photodynamic therapy based on methylene blue dye and fluconazole for toenail onychomycosis.**

**Figueiredo Souza LW1, Souza SV, Botelho AC.  
Dermatol Ther. 2014 Jan-Feb; 27(1):43-7.**

Yet another innovative technique for treatment of onychomycosis is photo-dynamic therapy (PDT).

It has been evaluated and used for various dermatoses for a long time; as a medical modality using a combination of visible light and a photosensitive compound in the presence of oxygen. The standard indications include non-melanoma skin cancer; however, many other indications are being investigated, including onychomycosis.

This study was randomized, parallel, placebo-controlled study, which enrolled eighty patients with toenail onychomycosis. The control group included 40 patients who were treated with one placebo capsule per week and sessions of 2% methylene blue aqueous solution irradiated with light emission diode device (MBLED/PDT) with 18 J/cm<sup>2</sup>, for 24 weeks. The study group consisted of another 40 patients treated with 300 mg oral fluconazole per week and sessions of placebo PDT (haematoxylin-diluted 1:10). The sessions of MBLED/PDT were at an interval of 15 days between each session for 6 months.

Microbiological and clinical cure was assessed at 1 and 12 months post-treatment. It was reported that **MBLED/PDT patients showed a significant response** ( $p<0.002$ ) compared with Fluconazole treated patients. **Overall, the therapy was found to be safe, effective, and well tolerated. A favorable outcome with good patient adherence was reported. The authors propose that this may be considered as a practical and feasible treatment option for toenail onychomycosis.**

### Luliconazole: a review of a new antifungal agent for the topical treatment of onychomycosis.

**Scher RK<sup>1</sup>, Nakamura N, Tavakkol A.**  
**Mycoses. 2014 Jul;57(7):389-93.**

This present article is a review from the thought leaders in the world of nail disorders. It reviews the current literature related to luliconazole; a novel, broad-spectrum, imidazole antifungal. The agent is under development and evaluation as a treatment for dermatophytic skin and nail infections.

The authors report that *in vitro*, **luliconazole is one of the most potent antifungal agents against filamentous fungi including dermatophytes. It has been formulated as a 10% solution with unique molecular properties, allowing it to penetrate the nail plate and rapidly achieve fungicidal levels in the nail unit. Thus, it is a potent compound in the treatment of onychomycosis.** This article reviews the preclinical and clinical data and also summarizes the key future perspectives and areas open to future research in the treatment of onychomycosis.

### Efficacy of antifungal PACT in an *in vitro* model of onychomycosis.

**Mehra T, Schaller M, Walker B et al.**  
**J Eur Acad Dermatol Venereol. 2014 Mar 24.epub ahead of print.**

Another promising topical treatment option evaluated is **PACT or photodynamic antimicrobial chemotherapy**. In this form of therapy, an irradiated photosensitizer creates singlet oxygen molecules which destroy pathogens without damaging human cells. **PACT has proven strong**

**antifungal capabilities;** however, this study evaluates its efficacy in an *in vitro* model of onychomycosis.

The study evaluated PACT in a microdilution assay, in an *in vitro* onychomycosis model as well as in a patient. It was found that PACT inhibited fungal growth in the microdilution assay with no colonies of *T. rubrum* detectable. Fungal growth was also inhibited in an onychomycosis model, after 30 min of LED irradiation. Subsequently, a patient with distal-lateral onychomycosis was treated on three consecutive days and showed significant and durable improvement of nail morphology 6 months after this therapy. Though still very experimental in evolution, PACT shows some promise as an effective *in vitro* treatment of onychomycosis; however, results need to be validated by clinical trials.

### Ustekinumab improves nail disease in patients with moderate-to-severe psoriasis: results from PHOENIX 1.

**Rich P, Bourcier M, Sofen H, et al.**  
**Br J Dermatol. 2014 Feb;170(2):398-407.**

A number of biologics have been introduced as targeted forms of therapy in psoriasis. These have shown efficacy in dealing with various manifestations of the disease. The present study assesses improvement in fingernail psoriasis with ustekinumab treatment in patients being treated in the phoenix 1 trial. The baseline nail involvement was evaluated using the Nail Psoriasis Severity Index (NAPSI) on a target fingernail, Nail Physician's Global Assessment (Nail PGA) and mean number of nails involved.

766 patients with psoriasis were randomized to receive inject. ustekinumab 45 mg or 90 mg, or placebo at weeks 0 and 4. Of these patients 545 (71.1%) had nail psoriasis. Ustekinumab-randomized patients continued maintenance dosing every 12 weeks; while placebo patients crossed over to receive ustekinumab 45 mg or 90 mg at weeks 12/16 followed by dosing every 12 weeks. At week 40, initial responders [those with  $\geq 75\%$  improvement from baseline in Psoriasis Area and Severity Index (PASI 75) were re-randomized either to continue maintenance dosing or to withdraw from treatment.

At week 24, the percentage improvement from baseline NAPSI was 46.5% (ustekinumab 45 mg) and 48.7% (ustekinumab 90 mg). Percentage improvements in NAPSI ranged from 29.7-57.3%. Mean NAPSI scores improved from 4.5 at baseline to 2.4 at week 24 (45 mg) and from 4.4 to 2.2 (90 mg). Nail PGA scores and the mean number of psoriatic nails improved by week 24. Further improvement was observed for all end points among initial responders continuing maintenance treatment through week 52.

The authors concluded that **ustekinumab significantly improves nail psoriasis, and improvements continue over time until up to 1 year of treatment in those receiving maintenance treatment; however, whether this can be used for isolated nail psoriasis remains to be answered.**

### Secukinumab improves hand, foot and nail lesions in moderate-to-severe plaque psoriasis: subanalysis of a randomized, double-blind, placebo-controlled, regimen-finding phase 2 trial.

**Paul C1, Reich K, Gottlieb AB et al**  
**J Eur Acad Dermatol Venereol 2014 Jan 7. [Epub ahead of print]**

Another biologic evaluated for nail psoriasis was secukinumab. This phase 2, regimen-finding study, conducted in subjects with moderate-to-severe psoriasis and non-pustular psoriasis assessed the improvement seen in psoriatic nails.

Subjects were randomized to one of three subcutaneous secukinumab 150-mg induction regimens [Single (Week 0), Monthly (Weeks 0, 4, 8), Early (Weeks 0, 1, 2, 4)] or placebo. In the subgroup ( $n = 304$ ) with fingernail psoriasis (baseline composite score  $\geq 1$ ), efficacy was assessed as mean percentage change from baseline to Week 12 in a composite score.

At Week 12, the composite fingernail score improved with the Early and Monthly regimens, but worsened with placebo. **Secukinumab was well tolerated and demonstrated a beneficial effect on psoriasis of the hands/feet/nails in this short-term assessment.**

### Onychophagia and onychotillomania: prevalence, clinical picture and comorbidities.

**Pacan P, Grzesiak M, Reich A et al**  
**Acta Derm Venereol 2014 Jan;94(1):67-71.**

**Onychophagia is defined as chronic nail biting behavior and onychotillomania refers to recurrent picking of the nails, leading to their visual shortening or extraction.** Conventionally, the nail tic disorders have received very little attention in literature; however, of late, their importance is being recognized and their prevalence being quantified.

This interesting study is one such attempt where the prevalence of onychophagia and onychotillomania in young adults was assessed. The comorbidity of these conditions with anxiety disorders and obsessive compulsive disorders (OCD) was also looked into and factors related to these behaviors were analyzed.

Among a total of 339 individuals interviewed, onychophagia was present in 46.9% of participants (including 19.2% active and 27.7% past nail biters), and an additional 3 people (0.9%) had onychotillomania. The majority of subjects (92.2%) described nail biting as an automatic behavior. Tension before nail biting was reported by 65.7% of nail biters, and feelings of pleasure after nail biting by 42%. Among the participants with lifetime onychophagia, 22.5% met criteria of anxiety disorder and 3.1% of OCD, while in the group without onychophagia at least one anxiety disorder was diagnosed in 26.2% and OCD in 5.0%. **There was no correlation between nail biting and other anxiety disorders or OCD.** The authors propose that no single condition is associated with nail biting or influences this behavior; infact, multiple psychological factors seem to be involved.

### Onychophagia is Associated with Impairment of Quality of Life.

**Pacan P, Reich A, Grzesiak M et al**  
**Acta Derm Venereol. 2014 Feb 17 [Epub ahead of print]**

The same group of authors attempted to correlate onychophagia with impairment of quality of life and stigmatization level among 339 medical students with and

without nail biting. The authors report that those with **onychophagia demonstrate significantly higher QoL impairment compared to the controls** ( $p < 0.001$ ). Further, a higher number of involved fingernails ( $p = 0.03$ ), correlated with further impaired QoL. **The subjects reported that the tension before or when trying to resist nail biting; the suffering due to nail biting; and nail eating behavior were independent variables which influenced their QoL. The impact of onychophagia on its sufferers is thus being increasingly realized.**

### Confocal microscopy for healthy and pathological nail.

**Cinotti E, Fouilloux B, Perrot JL et al J Eur Acad Dermatol Venereol 2013 Dec 10 [Epub ahead of print]**

In keeping with the need to develop newer, more sophisticated and less invasive techniques of nail diagnosis; this study attempts to evaluate confocal microscopy. **This is a high-resolution emerging imaging technique has been found useful in exploring the entire body surface area. This includes skin, mucosa, hair as well as nails.**

The study involves a systematic review of literature concerning the use of confocal microscopy for study of healthy as well as pathological nails. The study summarizes the current use of this technique and its possible future applications. It goes to state that **confocal microscopy is particularly suitable for nails as an in vivo, non-invasive examination of this appendage is possible. The transparency of the nail plate permits imaging up to the nail bed and an easy identification of corneocytes.**

The article states that **this technique is particularly useful in the diagnosis of onychomycosis and melanonychia. The evaluation of drug penetration through the nail plate is also possible with this technique. The future potential lies in its use as a non-invasive procedure for evaluation of different nail diseases like psoriasis and lichen planus; as well as intra-operative ex vivo examination of nail specimens to outline tumor margins.**

### Utility of gel nails in improving the appearance of cosmetically disfigured nails: experience with 25 cases.

**Nanda S, Grover C.**

**J Cutan Aesthet Surg. 2014 Jan; 7(1):26-31.**

The dermatologists are well aware of the exponential growth in the use of artificial nails worldwide. Although, their use as of now is restricted to the cosmetic domain, this study attempts to bring it under the purview of practicing dermatologists. The study evaluates scientifically, their use as a corrective measure in cosmetically disfigured nails where other treatment options have failed; the condition is self-limiting or irreversible; or to camouflage the dystrophy until healing.

This is a prospective, uncontrolled, open-label study involving 25 participants with cosmetically disfigured nails. **The authors included mycological negative, consenting patients presenting with surface abnormalities like trachyonychia; superficial pitting; onychorrhexis; onychoschizia; Beau's lines and pterygium.**

The technique followed and the precautions taken are well summarized in the article. The study evaluates the patient satisfaction score with the procedure (on a scale of 1-10); Global assessment score of improvement (no improvement to excellent improvement) or the side effects associated with the procedure.

Out of a total of 69 nails treated (average 2.76 per patient), the average patient satisfaction score was  $9.08 \pm 0.86$  (range 7-10). **The Global assessment score was also encouraging with an excellent improvement in 40% cases. The authors propose the use of this modality especially in cases with nail plate surface abnormalities especially because of the absence of side effects.**

### Compiled by:

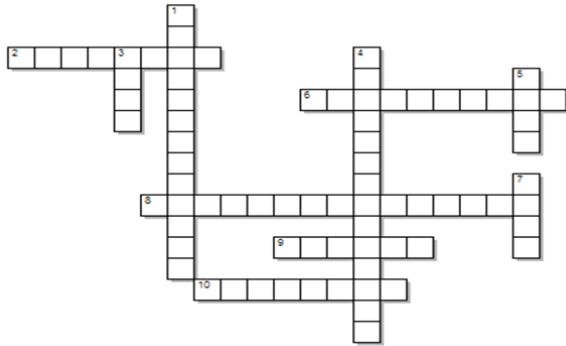
**Dr Chander Grover, MD, DNB, MNAMS**

Assistant Professor, Dermatology

University College of Medical Sciences

Founder Secretary, Nail Society of India.

### Nail Maze



#### Down

- 1 Purple painful nails are seen in which subungual tumor
- 3 Metastases to digital tip are most commonly from which carcinoma?
- 4 Myxoid cyst is often associated with this disease
- 5 Preferred treatment for Epithelioma cuniculatum.
- 8 Most common tumor of the nail is.

#### Across

- 2 Subungual Keratoacanthoma differs from keratoacanthomas elsewhere in that it does not.....?
- 6 An ominous sign representing spread of pigment onto the adjacent nail folds.
- 9 Nail eruptive hemangiomas arise from.....
- 10 A test used to aid in the diagnosis of Glomus tumours

### Compiled by:

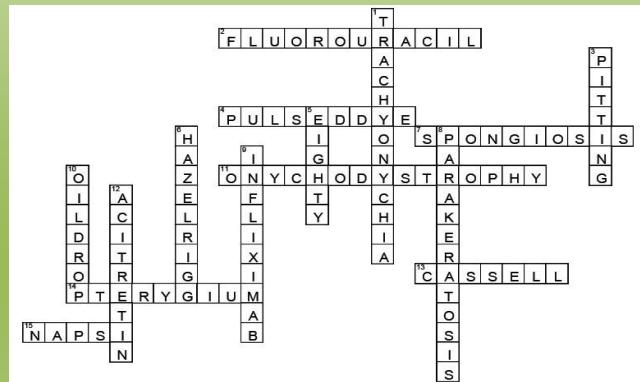
**Dr Subuhi Kaul**

Post Graduate, Department of Dermatology  
UCMS and GTB Hospital

Please mail your answers to  
[nailsocietyofindia@gmail.com](mailto:nailsocietyofindia@gmail.com)

Names of the first two all correct entries will be announced in the next issue of the newsletter.

### Solution to Nail Maze from Onychoscope Vol 3 Issue 2 (July 2014)



#### And the winners are!

- Dr Nirmal B, Vellore, India
- Dr Urmila Khanna, New Delhi, India



**ONYCHOSCOPE**

[www.nailsocietyindia.com](http://www.nailsocietyindia.com)

## Answer to Photo Quiz

**A: The picture shows Muerhcke's lines.**

**B: Hypoalbuminemia of <2.2 gm/ 100 ml is known to cause this,**

Muerhcke's lines are parallel white transverse bands lines that occur due to an abnormality in the nail vascular bed which explain their transient disappearance on squeezing the digit. They usually affect the 2nd, 3rd, and 4th fingernails.

Chronic hypoalbuminemia is a common cause and Muehrcke's lines disappear on correction of serum albumin levels to a value above 2.2g/100 ml. Any condition causing hypoalbuminemia like liver cirrhosis, nephrotic syndrome, glomerulonephritis, and malnutrition can lead to the appearance of Muerhcke's lines. Chemotherapeutic drugs like Doxorubicin has also been found responsible. There are case reports of Muehrcke's lines occurring in association with heart transplantation and Peutz Jegher's syndrome.

Muehrcke's bands are often confused with Mee's lines, the difference being that they do not grow out distally and resolve with correction of the hypoalbuminemia.



**Contributed by  
Dr Subuhi Kaul**

## Editorial Board Members



**Dr Shikha Bansal**



**Dr Chander Grover**



**Dr Archana Singal**

## Registration Form

Registration Fees				Registration Form			
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Early Bird Aug 15*	Late Aug 15*	Early Bird Aug 15*	Late Aug 15*	Early Bird Aug 15*	Late Aug 15*	Early Bird Aug 15*	Late Aug 15*
Conference Workshop	2250	3400	3400	4500	1800	2030	2250
	1700	2850	2850	3700	1200	1350	2250
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Presenter must be a registered delegate.							
Abstract should be typed in double space, using Times New Roman font size 12, not exceeding 200 words for free paper or Award paper							
Structured abstract is required under the following headings: Title, Aim, Materials and Methods, Results and Conclusion.							
Specify the choice of presentation: Award paper / Free paper / Poster							
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