



Patrons

Dr. BSN Reddy
Dr. Hema Jerajan

President

Dr. Archana Singal

Secretary

Dr. Chander Grover

Joint Secretary

Dr. Soni Nanda

Treasurer

Dr. Vineet Relhan

Advisory Board

Dr. Dinesh Mathur
Dr. HK Kar
Dr. SN Bhattacharya
Dr. AJ Kanwar

Founder Members

Dr. BB Mahajan
Dr. Deepika Pandhi
Dr. Manas Chaterjee
Dr. Niti Khun er
Dr. Raghunatha Reddy
Dr. Sanjeev Kandhari
Dr. Sidharth Sonthalia
Dr. Simesh Gupta
Dr. S Sacchidanand
Dr. Vijay Garg

International Advisory Board

Dr. Bertrand Richert, France
Dr. David DeBerker, UK
Dr. Dimitris Rigopoulos, Greece
Dr. Eckart Haneke, Germany
Dr. Robert Baran, France
Dr. Soumiya Chiheb, Morocco

Dear Friends!

Season's greetings!

It's that time of the year when we connect again with **Onychophiles** across India and abroad, bringing you news and views from the **nail world**. It's an exciting time in the nail journey and there's a lot that's been happening in this field. Onychoscope wishes to keep you abreast with all the info. The Nail Society of India is now **8 years old with 370 life members**, many of whom contribute actively towards the mission of the society. Onychoscope will be entering its **9th continuous publication year** with this issue and this has been made possible only by a dedicated team of workers and contributors who have given their bit towards its well-crafted content.

In this issue, we have our **invited faculty, Dr. Sushil Tahiliani**, talk to us regarding a difficult to manage condition the **pincer nail**. I am sure the writeup will be useful to the readers in learning tricks of the trade. In addition, we feature our regular columns, like **What's new in Nail** literature, compiled this time by **Dr. Avneet Monga**. She attempts to keep us abreast with the latest knowledge in the field of nail diseases. Our **Nail Maze** section has prizes on offer and has been compiled by **Dr. Ridhima Lakhani** this time. Do mail in your answers to nailsocietyofindia@gmail.com. Let's see how many of you can score a perfect 10!! **Dr. Geetali Kharghoria** and myself presents the **Photo Quiz**, as a challenge in clinic-onychoscopic-histopathologic correlation. Hope you would enjoy it.

There were two important Nail events in this duration and their compiled **Conference report** is being presented by **Dr. Saurabh Jaiswal, Dr. Sheetal Poojary and Dr. Resham Vasani**. The **8th ONYCHOCON - Annual National Conference of NSI**, was organized at Mumbai, Maharashtra by the dynamic team of Dr. Sushil Tahiliani (Organizing Chairperson), Dr. Nina Madnani, Dr. Manas Chaterjee, Dr. Sheetal Poojari, Dr. Ashok Shah, Dr. Harsh Tahilani, Dr. Saurabh Jaiswal and Dr. Jimish Bagadia. This was a landmark event in the history of NSI as it saw the participation of none other than **Prof. Robert Baran**, one of the founding pillars of Onychology and a living legend. The second prominent event was **Nail Masterclass organised by the European Academy of Dermatology and Venereology (EADV)** again at Mumbai! It was also a special event as it was the first ever such masterclass organised by EADV in India and Nail was chosen as its theme! There were eminent speakers in this field from India and Europe, who shared their knowledge with the audience enthusiastically. This issue carries key messages from both the events.

Among its nail concentrated activities NSI initiated **"Thesis Research Grant"** for its members from this year. The proposal had been discussed and approved in our GBM-2018. A Thesis research grant committee was constituted under the able leadership of Dr Dinesh Mathur, and Proposals for the year 2019 were invited in a duly filled format from our life members. Though there were two grants on offer, we received a single proposal which was scrutinised and approved. The first Thesis grant amounting to INR 30,000 was thus granted to **Dr Anil Kumar Bhoi** for his research work on Nail Psoriasis. Our GBM-2019 also approved a proposal to recognise UCMS and GTB Hospital, Delhi for initiating one week long **"Nail Observership Program"**. Application for the same will soon be invited. The program will accommodate two observers initially and will be carried out in Delhi.

Internationally, NSI joined hands with the other Nail societies including Council for Nail Disorders (USA) and European Nail Society (ENS) and Korean Society of Nail Science (KSNS), by becoming member of **International Nail Society (INS)**, established in June 2019. The founding board members include Dimitris Rigopoulos (President), Antonella Tosti, Bertrand Richert, Bianca Maria Piraccini, Matilde Iorizo, Natalia Rrompoti, Nion Di Chiacchio (Ex-Execue Board), Adam Rubin, Beth Ruben and Chander Grover (Auditing Committee). Members of NSI will automatically be members of INS which aims to spearhead nail focussed research and work in the field of nail diseases. It will organise International Summit on Nail Diseases every three years.

All this time, our **facebook page** has been a hub of activity with interesting cases and useful knowledge being shared. We encourage all of you to actively participate in these discussions and enrich them. This is also the space to be watched for various announcements from time to time. The **9th ONYCHOCON** will be hosted on **31st OCT- 1st NOV 2020 at Vishakhapatnam** by Dr Shriharsha and his team. The preparations for another rocking academic event are on at the largest city in Andhra Pradesh.

Wishing all our readers a very Happy and successful 2020!

Viva NSI!!

Chander Grover



Pincer Nails



Dr. Sushil Tahiliani, Dr. Harsh Tahiliani
Consultant,
Dr. Tahiliani's Clinics
Bandra & Malad Mumbai

Introduction:

It is a condition characterized by transverse overcurvature of nails, usually progressing from proximal to distal nail. First described by Cornelius & Shelley(1968). It is also known as Omega Nail, Trumpet Nail, Unguis Constringens, Incurved Nail, Convoluted Nail It is seen most frequently on great toes though other toes, and even fingers may get affected.

Etiop thogenesis:

It can be hereditary or acquired.

Hereditary- Less common, almost always symmetrical. Smaller toes may also be affected. There may be deviation of distal phalanx axis. It develops by young adulthood.

Acquired- More common, not symmetrical & seen much later in life. Most commonly due to deformity of foot due to ill-fitting shoes. Several other causes like dermatologic disorders, infections, drugs, Kawasaki's disease, degenerative osteoarthritis of distal interphalangeal joints etc are known to be associated.

It is suggested that the enlarged base of distal phalanx causes curvature of proximal part to decrease. There is a compensatory overcurvature of distal part. The traction of the overcurved distal part of nail plate on the underlying nail bed and tip of distal phalanx leads to development of a traction osteophyte.

Clinical features:

Symptoms- Aesthetic issues, pain while walking and wearing shoes, difficulty in trimming of nails

Signs- Three variants have been described **1) common type** with the curvature increasing from proximal to distal part **2) Plicated nails** where one or both edges are sharply bent **3) Tile-shaped nails** where the overcurvature is even throughout the length of the nail plate Lateral edges of the nail plate dig into the lateral nail grooves, leading to pinching of nail bed and total disappearance of nail bed soft tissue in extreme cases. Lateral margins roll in in such cases giving it a tube like appearance.

Differential diagnosis:

1. Ingrown nails- It is invariably painful condition and the nail plate is not overcurved
2. Pachyonychia congenita

Investigations:

- X-ray of the distal phalanx- AP view to look at the widening of the base of distal phalanx Lateral view in hyperextension to look at the dorsal traction osteophyte near the distal end of the phalanx
- **MRI** may pick up cases of osteophyte in cases where X ray may miss it *Imaging procedures are important in advanced cases as the treatment approach will be different as described latter in this article.*

Treatment:

Indications-

- Pain and inflammation
- Difficulty in trimming nail
- Difficulty in wearing footwear
- Esthetic reasons

Therapeutic approach varies according to type and severity of deformity, age of patient, co-morbidities, previous unsuccessful approaches and Personal choice of patient and sometimes the treating physician.

Conservative methods-

1. Clipping of the lateral edge of nail till as proximal a part as possible. It will be facilitated by application of salicylic acid ointment for a few days prior to trimming or soaking in hot water before trimming
2. Thinning of central part of nail plate from distal edge of lunula till the free margin. It increases pliability of nail plate and reduces pressure effect on nail bed. It may not improve clinical appearance in all cases. Various methods used are longitudinal grooving(single central or multiple grooves across the nail plate), grinding, 40% urea paste and subsequent removal of softened nail material.
3. **Orthonyx(Nail brace technique):** A stainless steel wire is fixed horizontally on the surface of nail plate conforming to the shape and size of the affected nail plate and the ends of wire are hooked across lateral edges of nail plate. A slight bending of the wire is done in the centre to exert a slight tension on nail plate. A series of adjustments is done periodically and the nail plate being softer than the steel wire, conforms to the shape of the brace and gets flattened usually over a period of 6 months. Plastic braces have also been used in some studies.

4. **Sculptured nails** fixed to the nail plate after curing of the lateral corners of nail plate has been tried successfully.
5. Gutter splint
6. Taping

The drawback of all the temporary methods is prolonged / repetitive method of treatment, failure to respond predictably and invariable recurrence in much shorter time than time taken for such treatment modalities.

Surgical treatment:

Permanent removal of lateral matrix horns after partial longitudinal nail plate avulsion(as in treatment of ingrown nails) is sufficiently effective in all but those cases where a dorsal traction osteophyte has developed. In such cases 2 additional steps make it more successful:

1. Laterally expanding pinched nail bed
 2. Removal of traction osteophyte
- Though many methods have been described to achieve the above, 2 methods will be described in brief here:

Haneke's technique-

- Partial nail plate avulsion and removal of lateral matrix horns
- Removal of distal two-thirds of nail plate
- Longitudinal median incision of nail bed followed by careful separation of entire nail bed from distal phalanx
- Dorsal tuft(osteophyte) is removed with a bone rongeur
- Nail bed flattened and sutured with 6:0 absorbable suture
- Reverse te-over sutures taken to keep the nail folds apart to maintain spread out, flattened nail bed. These sutures are removed after 3 weeks

Dong Ju Jung technique-

- After partial nail plate avulsion and chemical matrixectomy and removal of lateral two-thirds of the nail plate,
- Longitudinal median incision of nail bed is extended as inverted 'T' along the hyponychium
- Nail bed is separated from underlying phalanx
- Osteophyte removed with motorized burr
- Incision sites of nail bed sutured with 6:0 absorbable sutures

Summarizing, pincer nail deformity is a manageable condition where conservative methods are usually of temporary benefit while surgical approach provides excellent long term benefit.

References:

1. Cornelius CE 3rd, Shelley WB. Pincer nail syndrome. *Arch Surg* 1968;96:321-2
2. Baran R, Haneke E, Richert B. Pincer nails: definition and surgical treatment. *Dermatol Surg* 2001;27:261-6
3. Parrinello JF, Japour CJ, Dykyj D. Incurved nail. Does the phalanx determine nail plate shape? *J Am Podiatr Med Assoc* 1995;85:696-8
4. Kosaka M, Kusuhara H, Mochizuki Y, et al. Morphologic study of normal, ingrown, and pincer nails. *Dermatol Surg* 2010;36:31-8
5. el-Gammal S, Altmeyer P. Successful conservative therapy of pincer nail syndrome. *Hautarzt* 1993;44:535-7 [Dong Ju Jung](#), [Jae Hee Kim](#), [Hee Young Lee](#), [Dong Chul Kim](#), [Se Il Lee](#), [Tae Yeon Kim](#).
6. *Anatomical Characteristics and Surgical Treatments of Pincer Nail Deformity.* [Arch Plast Surg.](#) 2015 Mar; 42(2): 207-213
7. Fraser AR. Orthonyx: theory and practice. *Br J Chiropr* 1967; 32:229-3
8. Plusje LG. Pincer nails: a new surgical treatment. *Dermatol Surg* 2001;27:41-3
9. Suzuki K, Yagi I, Kondo M. Surgical treatment of pincer nail syndrome. *Plast Reconstr Surg* 1979;63:570-3
10. [Dong Ju Jung](#), [Jae Hee Kim](#), [Hee Young Lee](#), [Dong Chul Kim](#), [Se Il Lee](#), [Tae Yeon Kim](#). *Anatomical Characteristics and Surgical Treatments of Pincer Nail Deformity.* [Arch Plast Surg.](#) 2015 Mar; 42(2): 207-213
11. Brown RE, Zook EG, Williams J. Correction of pincer-nail deformity using dermal grafting. *Plast Reconstr Surg* 2000; 105:1658-6



Figure 1: classic pincer nail involving great toe



Figure 2: Pincer nail involving multiple nails



Figure 3 and 4 tubular version with obliteration of nail bed



Figure 4



Figure 5: Plicated pincer nail



Figure 6 Pre-treatment



Figure 7 Post surgical treatment(1 year post surgery)

PHOTO QUIZ

A 15 year-old-male presented with discolouration, thickening and roughness of a few nails progressing slowly over the past one year.

Clinical examination revealed thick, rough and discoloured nail plates involving 4 fingernails and 1 toenail [Fig. 1]. The involved nail plates showed fine pitting, lamellar splitting and darkening. However, on careful examination, we could identify lunula of the apparently normal left thumb nail showing a speckled appearance, instead of homogeneous white opacity.

There were no other apparent nail plate, bed or fold changes. Rest of the nails and muco-cutaneous sites were normal.

Dermatoscopy of the thumbnail (onychoscopy) is shown in [Fig. 2]. The sharp semilunar margin of the lunula remained unaltered. A nail bed biopsy was done whose findings are shown in [Fig. 3].

Q.1: What are the onychoscopic findings seen in Figure 2? What conditions are associated with this finding?

Q.2: What are the histopathological findings seen in Fig 3?

Q.3: What is the diagnosis?



Figure 1



Figure 2

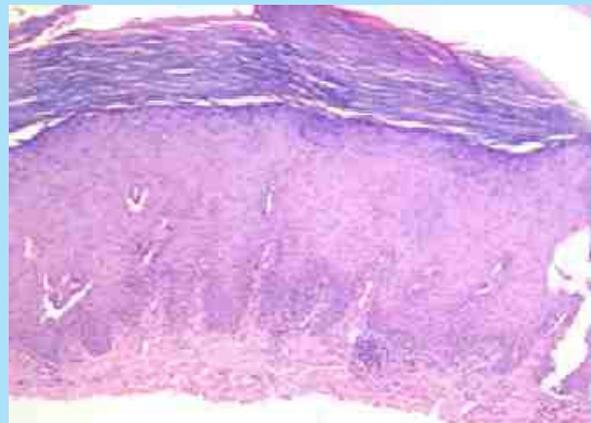


Figure 3

Photo Quiz Answer on Page 10

CONFERENCE REPORT

The 8th ONYCHOCON - Annual National Conference of NSI, Mumbai, Nov 2019

8th National Conference of the Nail Society of India had brought a great opportunity to have focussed sessions on Nail in Mumbai. It was held at The Hilton International Airport Hotel. Eminent international faculty members **Dr. Robert Baran, Dr. Bertrand Richert, Dr. Anita Takwale** inaugurated the ceremony. Organizing Chairperson **Dr. Sushil Tahiliani** welcomed the gathering. Organizing Co-chair was **Dr. Nina Madnani**, Organizing secretary was **Col. Dr. Manas Chatterjee** and Scientific chairperson was **Dr. Shital Poojary**. Faculty included **Dr. Robert Baran, Dr. Bertrand Richert, Dr. Anita Takwale, Dr. Vijay Zavar, Dr. Subrata Malakar, Dr. Chitra Nayak, Dr. Vishalakshi Viswanath, Dr. Archana Singal, Dr. Chandan Grover, Dr. Vineet Relhan, Dr. Rajiv Joshi, Dr. Manjunath Shenoy, Dr. Soni Nanda, Dr. Manas Puhane, Dr. Aseem Sharma, Dr. Siddhi Chikhalkar, Dr. Ashwin Kosambia, Dr. Farida Modi, Dr. Behroze Deputy** etc. Right from revisiting basics, nail diagnostics, nail tumors, fungal infections, clinical and therapeutic aspects to photography and cosmetics in nail has been discussed as per scientific agenda. The Nail Quiz was conducted by quiz masters **Dr. Manas Puhane and Dr. Deepak Jakhar**. The comprehensive excerpts taken from talks by faculties have been compiled here:

Understanding surgical anatomy: Dr Anita Takwale

- Proximal nail fold has a delicate nail matrix beneath (starting from beneath lunula)
- 81% of plate comes from proximal nail matrix
- Nail matrix (germinal matrix) has no granular layer
- 0.8 mm is the distance of matrix to tendon of extensors. Significance of this is while giving intralesional steroids we should be careful to avoid deeper injections.
- Vascular supply reduces with age and in perivascular diseases.
- Cadaveric dissections practice give good idea about anatomy but not about bleeding.

Nail signs and pathophysiology: Dr Vijay Zavar

- Burnished nail: seen in prurigo
- Lovibond's angle obliteration is seen in clubbing, seen in 1% healthy people.
- Onychogryphosis: Thick curved nails a.k.a. Ram's horn nail
- Soft nail: hapalonychia: egg shell nail
- Pterygium inversus unguis: ventral pterygium: seen in Raynaud's disease sometimes
- Horizontal leuconychia: Mee's nail. Arsenic poisoning, chemotherapy
- Longitudinal leuconychia: zinc deficiency
- Apparent leuconychia: Muehrcke's lines
- Beau's lines: curved angle suggest slow onset
- Chromonychia: chemotherapy
- Green nail: Pseudomonas infection
- Red lunula: SLE, psoriasis
- Triangular lunula: nail patella syndrome
- Longitudinal erythronychia: Darier's Disease
- Linear melanonychia: commonly because of physiological, Addisonian pigmentation, racial cause and many other diseases like LE, LP

Keynote address: Journey of a loner tackling the nail: Dr Robert Baran

- Cook syndrome: have no nail in the absence of normal bone
- Risk of amaurosis (transient loss of vision) due to insoluble ILS in alopecia has been noticed. Similarly, Hoigne's syndrome: dorsal pain, dyspnoea, anxiety, headache, psychiatric and cardiovascular trouble for 50 minutes as a result of PNF ILS has been noticed. (Similar to penicillin injections effects in syphilis) [Pulmonary capillary size: 8 micron, Size of steroid micromolecular size: 2-4 micron]
- Malalignment of nail (deviation laterally) can be there after surgery if we cut more than 3 mm of later nail. Reason not sure.
- Pseudo-leuconychia: seen if multiple coats nail paints applied without removing previous coats (keratin granulation or fungal infections)
- Longitudinal erythronychia maybe absolutely benign
- Pseudo-Yellow nail: can be seen in LP
- Longitudinal subungual acanthoma: can present with longitudinal xanthonychia
- The Bidet nail: French variant of worn-down nail syndrome due to repeated mechanical trauma during cleaning of genitalia in bidet. Nail matrix edema: just an edema of matrix near nail bed: heals by itself.
- Nail degloving: seen in pseudo-bullous LP, Kawasaki, EB

Onychoscopy: an update: Dr Subrata Malakar

- Splinter haemorrhages: psoriasis, traumatic
- V shaped Nick: Darier's disease
- Alternate red and white bands with splinter hemorrhages: Darier's disease
- Longitudinal red band, splinter haemorrhage, subungual hyperkeratotic mass in band: onychopapilloma
- Yellow spot in psoriasis: due to subungual exostosis
- Red spots: structureless blue/purple hue at the lunula: glomus tumour
- Green nail with Pseudomonas is due to pyocyanin pigment
- Onycholysis with regular border: traumatic
- Onycholysis with irregular border and yellow hue: onychomycosis
- DSO onychomycosis: yellow white color most common type.
- PSO onychomycosis has linear edge
- Ragged margins are due to fungus infect rete ridges.
- Subungual accumulation of fungus: Dermatophytoma
- Yellowish white stripes in melanonychia gives a clue towards onychomycosis
- Regular red dots in the hyponychium seen in psoriasis
- Giant capillaries with arborization in Dermatomyositis
- Early sclerosis shows more microhaemorrhages, less capillaries
- Actinic sclerosis shows more giant capillaries
- Onychoscopy shows micro-Hutchinson's sign in melanoma

Investigation in nail disorders: Dr Chitra Nayak

- Leuconychia: intermediate matrix: biopsy site matrix after retraction of PNF
- Nail plate thickness is 2-3 layers
- Hyponychium has granular layer
- Onychomycosis nail plate histopathology shows papillomatosis and neutrophils
- Glomus tumour has dilated vascular spaces and glomus cells in histopathology
- Best specimen for histology in endonyx is free margin clipping as entry point of fungus is distal margin
- Clean the nail with alcohol before biopsy to cleanse bacterial contamination
- Presence of psoriasis with fungus is possible.
- Lemon shaped conidia seen in Scopulariopsis brevicaulis onychomycosis
- Calcofluor white is a good stain to show fungus provided microscope has fluorescent light.
- PAS staining can even detect fungus in culture negative sample to confirm the diagnosis
- Arsenic can be found in nails in cases of chronic arsenic poisoning

Imaging in nail disorders: Dr Bertrand Richert

- Steroid application under occlusion can cause bone atrophy visible on x rays
- Subungual keratoacanthoma (painful) when removed can lead to nail without bone opposition
- Perineuroma is slow growing and painless
- Metastasis of nail unit may absorb entire distal phalanx visible on x-ray
- Ultra sound is operator dependent. High (30 MHz) resolution Ultrasound is better
- USG shows three layers of nail plate suggesting retronychia
- Radiotranslucent foreign bodies are visible easily in x-rays
- MRI is useful in spottin enthesitis PsA
- MRI is useful in vascular and cystic lesions like glomus tumour, myxoid pseudocysts (in 90% cases attached from nail to bone)
- Nail MRI requires customized small coil (especially in glomus tumour otherwise normal MRI may not be helpful).
- MRI is useful for surgeons to locate the lesion for removal
- Angio-MRI beautifully identifies glomus tumour.
- Optical CT high resolution (less than 10 micron) identifies plate involvement of any lesion even in layers
- Osteoid osteoma is easily visible in CT scan of nail.
- Reflectance confocal microscopy can identify fungus even at filamental level

Panel discussion: interesting cases: Moderator: Dr Archana Singal, Panelists: Dr Anita Takwale, Dr Robert Baran, Dr Vishalakshi Viswanath, Dr Vineet Relhan

- CT skull in Koenen's tumours case can show patchy areas in cranial vault: Tuberous Sclerosis Complex
- Koenen's tumours can respond to 0.1 to 1% Rapamycin topically. Remarkable response in 6-10 months. (On face, it may give irritation but on toes or finger nail, hardly any s/e). Recurrence is common.
- Radiofrequency on Koenen's tumour may also give good results with common recurrence.
- Nail plate split, ulcerated nodule on bed, lymph node in upper thigh: may indicate Melanoma or SCC.
- Incisional biopsy has a risk of spreading malignancy. LN can also give a clue to malignancy.
- In melanoma, functional surgery or even amputation may be required. So diagnostic biopsy can not be avoided.

- Sudden onset of 20 nail dystrophy: thyrotoxicosis can be a reason.
- Ectopic nail: in front of normal nail or hyponychium/PNF: onychoheterotopia: due to ectopic implantation of nail matrix following trauma: RF can be done to destroy ectopic matrix.

Nail biopsies: how to choose site and techniques: Dr Chander Grover

- Aim of biopsy: no scarring, more histological clues
- Search for a skin lesions for avoiding nail biopsy, if possible.
- Always take mentioning functional loss of normal nail (like difficult driving, tetexting)
- Pitting proximal matrix: biopsy site Nail Matrix
- Oil drop, splinter haemorrhages: nail bed biopsy site
- Subungual hyperkeratosis: nail bed biopsy
- Proximal block: lignocaine +/- adrenaline, enter parallel to base of proximal phalanx, exsanguination of pooled blood by gauze strip, circumferential tie followed by tourniquet.
- Nail plate biopsy: either punch or excision
- Proximal Matrix biopsy: separate the fold first and suture in the end. After a month normal nail growth will overtake.

Histopathology of common inflammatory nail disorder: Dr Rajeev Joshi

- PAS stain shows hyphae (which are unstained in H & E)
- Elongated rete seen in Psoriasis nail bed.
- Neutrophils are present in both Onychomycosis and psoriasis. So always perform PAS stain as well in such cases.
- 20 nail dystrophy can be because of AA, LP, and Psoriasis. Lichenoid infiltrate will not be there in the nail bed. Retained granular layer sometimes can be seen as granular parakeratosis.

Clinical patterns of Non-melanoma nail tumors: Dr Anita Takwale

- 75% glomus tumors are subungual. They do not blanch. Painful. Hildreth's test: transient ischemia relieves pain (100% specific). Love's pin test and cold sensitivity test are quite sensitive. MRI is helpful in confirmation of the site and size.
- Myxoid cyst: most common tumor, dome shaped smooth surface, arises from leakage of synovial folds. Arthritis common in them. Jelly like mucous discharge (HA).
- Onychomatricoma: rare. First mentioned in 1992. Painless. Yellow discoloration. Keratin stain AE1, AE3 present. Dermoscope shows honeycomb perforations.
- Bowen's disease: verrucous. HPV virus linked. 78% cure rate is Moh's surgery. Other modes have more recurrence rates.
- SCC: trauma, chronic infection, HPV, tobacco are linked. It has low metastasis rate. General recurrence: 56%. Moh's surgery recurrence rate: 3.5%

Diagnosis and management of melanoma in 2019: Dr Bertrand Richert

- Melanoma arise from nail Matrix.
- Never do punch biopsy from Hutchinson's sign area. Do biopsy from Matrix!
- Granular melanonychia on onychoscopy should be suspected as melanoma. Micro-Hutchinson's sign can also be seen.
- 20-30% melanomas are amelanotic.
- Monodactylic onychorrhexia should give a suspicion of melanoma.
- Functional surgery should be gold standard for nail melanoma. Skin grafting after excision gives a good cosmetic appearance. Preferred in in-situ cases.

Current trends in onychomycosis: Dr Manjunath Shenoy and Panel discussion: fungal infections of nail unit: Moderator: Dr Manjunath Shenoy, Panelists: Dr Vijay Zawar, Dr Soni Nanda, Dr Manas Puan, Dr Chitra Nayak

- TDO has highest risk of subungual ulceration
- For diagnosis following steps are generally followed: KOH > Culture > Plate biopsy/PAS stain.
- If all negative, then reconsider diagnosis of fungal infections.
- Chicago sky blue stain increases sensitivity of KOH mount
- Non dermatophytic mould on culture may not be pathogenic.
- If you are clinically not sure it's fungus, do clipping and culture.
- If you are clinically sure with onychoscopy that it's fungus, no need to do clipping, give antifungal.
- In onychomycosis, terbinafine daily or pulse itraconazole works well.
- Toenails duration of treatment should be longer. (Minimum 3 pulses or more) in 3 months we may not see results in toe. Sometimes wait and if no response restart after some months. 6-9 months duration to be better.
- Finger nail grows 1 cm in 3 months. Toe nails grows 1 cm in 7-9 months. Infected nail grows much slower.
- Counsel that after therapy, nail may not be normal functional.
- With fractional CO₂ for onychomycosis, 60 degree temperature is necessary. It's painful if deep. Do till it's not painful. It clears 50% load of fungus. Do not touch lunula. And rely on antifungals

Hues of the nail: Dr Robert Baran

- True leuconychia: (involves nail plate) can be seen in BEAN syndrome/Blue rubber bleb nevus, Port wine stain, Darier White Disease
- Longitudinal leuconychia: can be there as onychopapilloma, idiopathic, zinc deficiency etc
- Subtotal Leuconychia: can be there in Carpal tunnel syndrome, C4 injury, arsenic poisoning, weed-killers (paraquat), etc
- Transverse leuconychia: heavy metal poisoning, pilocarpine, tritherapy, electron beam etc
- Acquired leuconychia: Ischemic cardiopathy, SLE, Buerger's disease, etc
- Half and half nail: can be traumatic
- Apparent leuconychia (disease of nail bed not nail plate): half and half nail, Terry's nail, mechanical onycholysis, etc
- Pseudo-onycholysis (involve superficial layers of nail): psoriasis, keratogranulatio (nail enamel), cyanoacrylate glue, etc.
- Yellow nail: Yellow nail syndrome (YNS): look for RA, Paraneoplastic disease, and titanium in medical devices.
- Variants of YNS: endogenous xanthonychia (RA, Gold salts, isotretinoin, valproic acid, taxanes, quinacrine, CTD, jaundice, carotenemia, unilateral carpal tunnel syndrome, Kawasaki disease), Dermatological condition (LP, retronychia, nea, infections), Exogenous xanthonychia (cosmetics like propolis, nicotinic heavy smokers, ascorbic acid, ciclopirox, photo-onycholysis)
- Longitudinal erythronychia: Onychopapilloma, Bowen's disease, Melanoma, tuberous sclerosis (red comet tail on dermoscopy), warty dyskeratoma, glomus tumour, osteoma cutis, SLE, idiopathic is rare (so in idiopathic erythronychia biopsy is mandatory)

Management of acquired nail disorders in pediatric age-group: Dr Aseem Sharma

- Onychomadesis can follow viral infection, eczema
- Ectopic nail formation: onychoheterotopia
- Onychocryptosis can be physiological in newborns.
- Moza staging 1-4 is used for treatment of Onychocryptosis. Stage 2 onwards matricectomy can be done.
- Habit tic deformity: washboard appearance, psychiatric help can be taken for behavioral therapy.
- Onychophagia: seen in depression, boredom, etc
- Denatonium 1% Femite lotion can be applied.

ADR related to nail: Dr. Archana Singal

- It is observed more on finger nails than toe nails. More on thumb and great toes
- Onycholysis common with taxanes. Cytotoxicity to nail unit epithelia due to cessation of mitosis or collection of drug in plate/dermis or interruption of vasculature can be a cause.
- Nail color change: can be seen 3-8 weeks after chemotherapy, it is reversible.
- Clofazimine orange in color, slate grey with minocycline.
- Muehrcke's lines can be seen as ADR.
- Taxane onychopathy: onycholysis, purpura, subungual haemorrhages, pigmentation
- Photo-onycholysis: seen after 2 weeks of exposure, tetracycline and psoralen are common offenders.
- Itraconazole, fluconazole, OCPs and retinoid can increase nail plate growth.
- Amorolfine multioat can cause yellow nails (amorolfine nails)
- Bleomycin can cause digital necrosis. May resolve spontaneously.
- Retinoid related PG can improve with low dose. PG related to ART needs changes in ART
- Reassure the patient about transient nature of ADR. (8-12 weeks).
- Generous emollients should be applied.
- Prevent sunlight in tetracycline/psoralen related onycholysis. Common drugs causing nail changes: antibiotics, anti-malaria, ART, retinoids, chemotherapy.

Importance of the nail for diagnosing various genetic conditions Dr Robert Baran

- Anonychia: Cook syndrome in absence of distal phalanx, no nails.
- Syndactyly in Apert-Crouzon's syndrome
- Congenital Onychodystrophy of index finger: COIF syndrome: Iso-Kikuchi syndrome
- How to remove nail in pachyonychia congenita: It's a disease coming from nail bed. So remove nail bed. Gives good results. Less recurrence.
- Phenol 88%, TCA, electrocautery are good options of matricectomy.
- Vandenbos procedure of removing extra granulation tissue in nail fold hypertrophy in onychocryptosis
- Spontaneous resolution in trachonychia is known. Counsel accordingly. No diagnostic test required specially in children. Longitudinal biopsy can help in very long duration trachonychia. Chemical peels help in pitting in 6 weeks.

- Salmon patches in dermoscopy helps to diagnose psoriasis.
- Onychoscopy features helps in selecting biopsy site in psoriasis.
- D3 analogs may not work stand alone in nail psoriasis. Should be combined with steroids. Anthralin short duration application works well but gives brownish discoloration.
- Nail bed injections of Mtx or oral Mtx helps in nail psoriasis
- In psoriasis, pressing the straight fingers joined distally if is painful, that indicates necessity of systemic treatment. It may also be an early sign of PsA.

Management of chronic paronychia: Dr Vineet Relhan

Panel discussion: how do I manage: moderator: Dr. Chander Grover, Panelists: Dr. Robert Baran, Dr. Bertrant Richert, Dr. Aseem Sharma, Dr. Siddhi Chikhalkar

- For ingrown nail, offending factor could be the ingrown nail plate or the overgrown nail fold.
- Of the conservative measures, surgical taping is very useful
- Panelists were not in favor of operating both great toe nails at the same time
- Retronychia is proximal ingrown and is easy to recognize clinically. High frequency ultrasound can help diagnose easily. Treatment of choice is proximal nail avulsion.
- Trachyonychia: TND (twenty nail dystrophy) is a term best avoided now
- No particular role of any lab tests in trachyonychia. It is a clinical diagnosis
- Trachyonychia can be conservatively managed in young children (emollients). Intramatrix triamcinolone injection help improve, but prolonged maintenance is required. Oral biotin or mid-depth chemical peels can help in milder cases not ready for injections.
- **Nail Psoriasis:** Diagnostic features are well established, both onychoscopically and histopathologically
- In nail psoriasis, role of general measures to avoid aggravation was emphasized
- Choice of treatment depends on number of nails involved (few nail disease being <3 nail involvement) and concomitant psoriatic arthritis
- For nail matrix disease, 1st line is intramatrix steroid therapy; while for bed disease, 1st line is topical steroids or Vit D derivatives
- For more than 3 nails disease, systemic treatment depends on other manifestations or QoL considerations
- Role of nail bed methotrexate was discussed
- **Nail Lichen planus:** This is an emergent condition because of the imminent risk of scarring and permanent nail loss
- Pterygium cannot be reversed, but surrounding changes and changes in surrounding nails should be treated instead of saying a blanket no.
- Intramatrix steroids, and even intramuscular steroids (given at monthly intervals can help prevent further nail damage).

Capturing the perfect nail photograph: Dr. Ashwin Kosambia

- All fingers joined together is better for finger nails
- Angled shot is better for subungual findings
- For curve: better to capture from sides
- Eliminate reflection by using diffuse light
- Cleanse the lens before use.
- Keep camera away and use zoom to have better light distribution and less distortion
- Use indirect/reflected light to capture pictures
- Make use of EV exposure value in background. (Presence in manual setting)
- Bounce flash gives best results in professional cameras.
- Take one photograph with dark background so the next photograph automatic white balance takes care of color exposure.

Nail cosmetics: Pros and cons: Farida Modi

- Awareness of glamour and pitfalls of nail cosmetics is important. It's a big business for non-dermatologists. Dermatologists can help in rational use of nail cosmetics.
- First nail polish commercially available from 1932.
- Nail extensions are adhered with cyanoacrylate glue
- Press on nail, gel nail (photobonded acrylic gel hardened under UV), Magnetic nail polish (iron oxide/magnetite, chance of contact dermatitis) are updates
- Gamma butyrolactone are safe nail polish remover.
- Such cosmetics can camouflage habit t tic. Britnail can become more brittle due to remover of polish- only base coat application is better to avoid any more damage.
- Nail polish can stain plates causing yellow discoloration. It is transient. Base coat can prevent such discoloration.
- Pseudoleukonychia (keratin granulation) can be a result of multiple coats of polish overlap without removing the earlier coat
- Contact dermatitis of nail fold is known in such cosmetics
- Avoid pedicure foot bath unless it is regularly bleached.
- Avoid waxing before pedicure
- Do not let technicians to touch cuticle while doing pedicure.
- LED lights are better over UV light for nail cosmetic hardening

Instruments in nail surgery: Dr Behroze Deputy

- Routine instruments of minor dermatological procedures except Nail spatula and nail splitter are sufficient for most of the nail surgeries
- Nail spatulas and splitters are available in different sizes.

Innovative techniques in nail surgeries: Dr. Bertrand Richert

- Square flap of proximal nail fold can be taken in chronic paronychia and it can be sutured after debridement.
- Phenolisation for 4 mins make sure that it reaches basal layer.
- Equal results of phenol and 100% TCA for matrixectomy have been noticed.
- Cryotherapy for matrixectomy: it takes 3 weeks for healing. <2% recurrence.
- Aggressive debulking gives a decent results in chronic paronychia with onychocryptosis
- After taking flap of proximal nail fold, infiltrate the matrix with lignocaine to swell it up- this helps to take an easy shave biopsy
- Lateral branch of digital artery if pressed, hemostasis can be achieved easily. Anaesthesia inj (lignocaine) can help for the same. 0.33% brimonidine helps in hemostasis, but is costly.

Complications of nail surgeries: Dr. Bertrand Richert

- Bulky dressing and elevation of limb is important
- Too tight sutures and too much volume of anaesthesia may cause necrosis.
- Elevation of limb can decrease pain after nail surgery.

The academic feast at the conference had also included energetic involvement of participants for award papers, E-poster competition and The Nail Quiz. The 2 days gathering had witnessed 270 delegates who enjoyed the focused scientific content of event and hospitality by the organizers and the Nail Society of India.

Dr. Saurabh Jaiswal, Dr. Sheetal Poojary



Nails Master Class

European Academic of Dermatology and Venereology (EADV)
Masterclass on Nail at Mumbai on 9th Nov 2019

Take-home points

European Academy of Dermatology and Venereology (EADV) had arranged an outstanding Masterclass on Nail at Mumbai on 9th Nov 2019. Just a week after ONYCHOCON, it was a good consolidation of current topics with additional learning points. The comprehensive take-home points from the class have been compiled here:

Anatomy and physiology of the nail unit - André Lencastre (Portugal)

- Nail growth decreases in fever, cold environment, hypothyroidism
- Danger areas for surgery: Proximal nail Matrix: high risk area, Distal nail matrix: intermediate risk and Nail bed: low risk region.
- Nail unit blood supply comes from palmar digital artery connected by dorsal and palmar arches.
- Lovibond's angle normal is 160 degree, more than 180 is clubbing
- Schamroth's window also gets obliterated in clubbing

Elementary lesions - Myrto Trakatelli (Greece)

- Koilonychia in children can be a normal variation but in adults it should be evaluated
- Trachyonychia in children generally resolves completely over a time period. Counsel accordingly.
- If nail synthesis is interrupted transiently it leads to transverse grooves: Beau's lines; While prolonged (> 2 weeks) significant insult can lead to onychomadesis
- Lamellar splitting distally is called onychoschizia: most of the time it is not pathological: Excessive water exposure is the usual cause.
- Oil spots: onycholysis, in the middle third of nail suggest psoriasis
- White line corresponding to lunula over pigmentation of nail: clue to diagnose nail hematoma
- Keratin granulation is example of pseudo-leuconychia, can be confirmed by simple scraping the fragile white material.
- Longitudinal hypercurved nail leads to onychogryphosis

Onychomycosis - Soni Nanda (India)

- Nearly 50% of onychomycosis (OM) are non-dermatophytic molds (NDM) on culture according to a study
- NDM growth of culture should be confirmed by its regrowth on 2nd sample. Minimum 5 colonies should be grown on culture.
- Onychoscopic findings of OM includes Aurora borealis pattern, jagged proximal edges or spikes, distal irregular termination of nail plate. Amorolfine lacquer is not water soluble hence used once a week. It has to be applied after removal of earlier coat of lacquer otherwise can cause yellowish discoloration.
- Ciclopirox 8% lacquer is water soluble hence has to be used daily with one day off every week.
- Lacquer can be applied on hyponychium after mild debridement.
- Avoid terbinafine in lactation: Secretion in milk is high.
- Fluconazole has high MIC. It has to be given till complete clearance of onychomycosis.
- Fractional CO₂ laser can be used when nail plate is thick and nail avulsion is to be avoided.
- Fungus from fomites is killed at a temp of more than 60 degrees for more than 45 mins

Infections and infestation - Archana Singal (India)

- Herpetic whitlow: Medical health care professionals are more likely to get. Limb elevation and pain relief is more important. Surgical drainage should be avoided.
- Thrombosed vessels in onychoscopy are seen in wart: responds well to intralesional bleomycin
- In Hand foot mouth disease (HFMD) onychoscopic features include - onychomadesis, Beau's lines and orangish yellow discoloration. Resolves within in 1-2 months.
- Melanonychia can be an isolated manifestation of Chikungunya infection.
- Acute paronychia: Staphylococcus aureus, streptococci and pseudomonas common causative organisms. For pseudomonas, topical 2-3% acetic acid and fluoroquinolones are choice of treatment.
- Syphilis can present as Refractory paronychia
- Tubercular Dactylitis can lead to nail dystrophy.
- Nail lesions can be seen in 64% patients with leprosy due to infections, trauma, neurological causes/vasculopathy etc.
- Nail involvement in scabies can be isolated or seen commonly with crusted scabies. Treatment - debulk the nail. Topical 5% Permethrin, 40% urea

- Tungiasis: Causative organism - sand flea. Cause - Bare foot walking. Common in Brazil, African countries. Golden brown dots on dermoscopy. Treatment: remove the flea, tetanus toxoid injection should be given

Nail lichen planus - Chandar Grover (India)

- Risk of scarring is high. Association of nail LP with oral lesions is high.
- Pterygium, leuconychia can result due to involvement of intermediate matrix
- Linear nail dyschromias in LP originate from nail bed, over lunula
- Hanno's criteria exist for histopathological diagnosis of nail LP
- Major criteria for diagnosis include: saw toothed acanthosis, lichenoid infiltrate.
- Childhood trachyonychia - no active intervention is needed in most cases
- Adult trachyonychia - intramatrix inj. of steroids can be offered. Regular follow ups recommended. Subungual hematoma can happen.
- Pterygium does not respond to ILS
- Nicolau syndrome and Hoigne syndrome can occur as a complication with ILS.
- Chemical peel containing GA 70%/phenol helps in pitting and superficial abnormalities. The peel can be applied for half an hour and then neutralized.
- Camouflage option for irreversible damage include Gel nails.
- Alitretinoin 30mg at night can help. (Should be given at night as it gives headache. 10mg is not useful)
- Melanonychia doesn't improve with many treatment options. You have to wait for a long time. Nail polish can be a camouflage.

Nail Psoriasis - Sushil Tahiliani (India)

- Isolated nail is involved in 5-10% overall
- Nail psoriasis is an independent risk factor for arthropathy
- Irregular pitting, salmon patches, onycholysis with erythematous borders: diagnostic changes
- Less than 3 nails involved: ILS in adults. In children topical Vit D analog + steroids.
- Topical therapy works well for nail matrix changes than bed.
- 40-60% improvement with apremilast
- Morning stiffness of fingers or nail squeeze pain are indicators of joint involvement

Cosmetic procedures for nail disorders - Soni Nanda (India)

- Gel nails: photo initiators
- Clean with savlon, protect the cuticle by Vaseline, buffing/mild abrasion, thin gel coats (one to many),
- LED lights or UV light with covering/gloves for hand to prevent photodamage.
- (Primer before gel is 100% methacrylate. Just a drop and let it spread. Optional)
- Never tamper the cuticle
- Good ventilation is important during the procedure because of odor. Avoid in pregnancy.
- How to remove: nail polish remover, cover, for 5 mins. Hydrate, emollients.
- Nail Peels: It works on superficial nail abnormalities
- Clean with acetone/cleanser followed by the application of vaseline on cuticle and surrounding skin.
- Use smaller brush/ear bud to apply single coat of Medium depth peels, 70% GA or 8% phenol and Wash after 10 mins
- The peel may be repeated after a gap of 3-4 weeks
- Side effects of gel nail: possible total separation of nail, nail koebenization is possible in Psoriasis. Acetone to remove the gel needs nearly half an hour which may damage surrounding skin.

Ingrowing nails - Bertrand Richert (Belgium):

- Phenol is anesthetic. Thus, pain is less. Oozing can be there for 3 weeks
- Antiseptic dressing to be followed.
- 4 mins is ideal time for phenol nail matrix destruction
- Sodium hydroxide, 100% TCA are alternatives. Duration of application - 1 min. But less inflammation with phenol. Equal results are seen with all.

Malignant nail tumors - Myrto Trakatelli (Greece):

- SCC: - most frequent malignant tumor
 - Male predominant
 - Finger nails involvement with SCC in 98% of cases
 - 50% origin nail bed
 - One third cases painful
 - HPV associated Squamous cell carcinoma has aggressive nature

- Melanoma:
 - Rare, originate from Matrix
 - Great toe nail, female preponderance
 - 1st symptom longitudinal melanonychia
 - Extension of pigment to the periungual area - Hutchinson's sign
 - Monodactylic Amelanotic melanoma can mimic LP of the nail
 - Functional surgery for melanoma - 6mm border from all the sides of melanoma- is a gold standard treatment now for non-invasive/in situ melanoma. Difficulty is with deep margin. Graft ideal can be taken from inside of arm.
 - Lifetime follow up with patient is a must

Benign nail tumors - André Lencastre (Portugal):

- **Exostosis:** - Great toe nails, 80% times involved
 - Common subungual tumor
 - X-ray, MRI are useful in diagnosis
 - Recurrence 10% due to incomplete removal
- **Acral fibroma:** - Periungual: shave, excision
 - Epiungual: retract skin and excise
 - Intraungual, Subungual: hard to excise, Retract nail/skin and excise
- **Acral fibromyxoma:** - Avulse the nail, remove the white nodule.
- **Glomus tumour:** - 90% female, 75% of all tumours of hand.
 - Love's test, cold Temp test.
- **Onychopapilloma:** - Fingernails, female, longitudinal chromonychia (red>white>brown)
- **Onychomatricoma:** - Biphasic fibroepithelial intraungual growth
 - Long duration, fingers
 - Yellow colour almost 90% cases
 - Free edge perforations (woodworm eaten appearance on dermoscopy)

How to start nail surgery - Bertrand Richert (Belgium):

- Lignocaine 2% effects last for 2hrs
- Wing block (all in surrounding of nail)
- Distal digital block (0.5 ml for each nerve dorsal and ventral each side. Thus 2ml)
- Gloves may be used for fingernail tourniquet or gauze tourniquet may be used.
- Volumetric tourniquet, pressing the digital artery by inj of lidocaine or saline. 0.5 ml can also work.
- Phenol 90% for chemical matrixectomy
- Hemostatic foam can be used
- For lateral longitudinal nail unit incision, do horizontal mattress suture. Easy to remove.
- Aluminum chloride 20% can be good for hemostasis followed by Bulky dressing
- Avulsion and lateral longitudinal biopsy are most painful. Use painkillers like Tramadol.
- Give a post-surgery form for instructions about pain and dressings.
- Proximal matrix damage will definitely cause permanent dystrophy of nail.

Imaging of the nail unit - David de Berker (UK):

- Transillumination helps in identification of xanthoid cyst, ganglion, glomus tumour

Onychoscopy - Matilde Iorizzo (Switzerland):

- Surface alterations-dry dermoscopy
- Plate color changes- wet dermoscopy
- Lift the plate if necessary
- Melanocytic activity is seen in more than one nail. Seen as greyish dark in color.
- Dots and lines on onychoscopy on melanonychia can be a melanocytic nevus which regresses over time.
- Wavy lines and splinter hemorrhages seen in onychotillomania

Psychodermatological aspects of nails - Jacek C Szepietowski (Poland)

- Onychophagia: form of compulsive biting of nail: can be triggered by over-stimulation (stress, excitement) or under-stimulation (boredom): affects QoL
- Onychotillomania: form of self-destructive due to recurrent picking, manicuring paronychia/cuticle

Pediatric Nail disorders - Matilde Iorizzo (Switzerland)

- Nail grows slowly in premature infants but otherwise faster in below 14 years age
- Anonychia can be syndromic or due to alcohol, warfarin, anti convulsants, morphine
- COIF: congenital onychodysplasia of index finger is due to radial digital artery ischemia or due to abnormal thumb on finger grip in utero
- Triangular lunula: seen in nail patella syndrome

- Pachyonychia congenita: thick curved onycholytic nails with hyperkeratosis. 50% of subtle changes present at birth. Simvastatin downregulate the gene expression. (rapamycin down regulates mutated proteins but not allowed in children)
- Periungual hyperpigmentation in newborn is evident between 2 to 6 months, due to reaction to maternal hormones, fades slowly.
- Multiple growing fingernails in infants can be due to grasp reflex, which disappears by 3 months of age
- Thumb sucking, minor traumas can induce onychoschizia
- Koilonychia should be evaluated for iron levels and thyroid.
- Cytopathic effects on matrix due to HFMD causes onychomadesis
- Oblique ridges converging in the center of nail plate involving all fingernails: Chevron/Herringbone nail, V shaped ridging: due to transverse growth less than longitudinal growth of plate: regresses spontaneously in adulthood.
- Nail Lichen striatus is due to somatic mutation induced mosaicism. It appears due to autoimmune T lymphocyte inflammatory reaction self-limiting. Nail changes improve over years.

Dr. Saurabh Jaiswal, Dr. Resham Vasani

Excerpts from Nail Literature

NAIL: WHAT'S NEW?

Monod, M.; Méhul, B. Recent Findings in Onychomycosis and Their Application or Appropriate Treatment. *J. Fungi* 2019, 5, 20.

Agents causing nail infections are not only dermatophytes but also moulds and yeasts of the genus *Candida*. *Trichophyton rubrum* and *Trichophyton interdigitale* are the commonest dermatophyte species found in onychomycosis following tinea pedis. A mould infection should be suspected in case of several treatment failures, or with a positive direct examination without dermatophytes in culture, and/or a hallux infection (post trauma) without any other sign of tinea pedis. Only repeated isolation of the same NDM (non dermatophyte filamentous moulds) such as *Aspergillus* spp., *Penicillium* spp., and *Fusarium* spp., confirms its presence.

Most recent fungal diagnostic tools include PCR, ELISA and Western Blot. PCR identification of fungi has shown a higher prevalence of moulds (approx. 20%) vs culture results (3 to 80%). Immunological methods use anti-dermatophyte monoclonal antibody that reacts with the cell wall antigen of dermatophytes.

If drug resistance is suspected, antifungal susceptibility testing should be done on SDA diluted 1/10, potato dextrose agar (PDA) and oatmeal agar (OTA), on which *Trichophyton rubrum* is supposed to sporulate easily. Terbinafine-resistant *T. rubrum* nail isolates are around 1.0% and resistance is due to a single-point mutation, leading to amino acid substitutions at one of the four amino acid positions (Leu393, Phe397, Phe415 and His440) within the SQLE protein.

Response are due to mould infection. *Trichophyton* resistance to terbinafine is due to a missense mutation in the squalene epoxidase enzyme, and a switch to azole-based treatment may be necessary to cure such cases. The application of amphotericin B as a topical solution (6-12 months) is a safer and cheaper treatment option for mould onychomycosis.

Comments: Cases of dermatophyte resistance to antifungal agents in nails are still rare (about 1%), and most cases of poor treatment

Chessa, M.A., Iorizzo, M., Richert, B. et al. Pathogenesis, Clinical Signs and Treatment Recommendations in Brittle Nails: A Review. *Dermatol Ther (Heidelb)* (2019).

Nail plate (NP) brittleness (or fragility) affects around 20% of the population, especially women over 50 years of age, with fingernail fragility being more prevalent. Brittle nails (BN) are not painful but cause significant cosmetic and functional problems.

The nail plate split, flake and crumble, become soft and lose elasticity. The main clinical presentations are:

1. Onychoschizia- longitudinal splitting and shallow parallel furrows.
2. Onychorrhexis- NP exfoliates into fine horizontal layers due to loss of intercellular adhesive factors.
3. Superficial granulation or onychia - NP keratin undergoes gradual granulation or exfoliation with the formation of small white-yellow patches and striations
4. Worn-down nails- repetitive mechanical trauma to NP and present as an area of triangular thinning and erythema of the distal NP.

Primary "idiopathic or brittle nail syndrome" seen in fingernails of postmenopausal women is due to loss of lipids and water in NP.

Secondary BN occurs due to

1. Inflammatory nail disorders like psoriasis, lichen planus, lichen striatus, alopecia areata, Darier's disease and eczema.
2. Infections like superficial white onychomycosis, distal subungual onychomycosis.
3. Systemic diseases like impaired peripheral circulation and hypothyroidism.
4. Drugs like chemotherapeutic agents, retinoid and anastrozole.
5. Trauma and alteration of the nail hydration in household employees, hairdressers, nurses, etc.

Comments: treatment of NF includes oral vitamin supplementaton (especially biotin-vitamin B7 at a dose of 5 – 10 mg per day for 3 to 6 months), trace elements and amino acids (especially cysteine). In addition, topical moisturizers and lacquers can be considered to restructure the affected nail plate and avoidance of trauma and allergens.

Lieberherr, S., Cazzaniga, S., Haneke, E., et al.(2019), Melanoma of the nail apparatus: a systematic review and meta-analysis of current challenges and prognosis. J Eur Acad Dermatol Venereol.

Nail apparatus melanoma (NAM) is a rare dermatologic malignancy with poor prognosis usually because of late diagnosis. Delay in diagnosis occurs due to late presentation of the patient, insufficient biopsy material or misdiagnosis, especially in early stages.

A meta-analysis was done to summarize the treatment procedures and prognosis observed over the last two decades and pooled survival and progression rates of NAM was calculated from this data. NAM includes melanoma of the nail bed, matrix or periungual skin and outcome was defined as death or recurrence. It was observed that NAM are more common in males, in the fifth and sixth decade and hand lesions being more common. Mean Breslow values were 0.82-8.70 mm, sentinel lymph node biopsy (SLNB) positivity varied from 0 to 30.6%, with predominant subtypes being acral lentiginous melanoma, nodular melanoma and superficial spreading melanoma. The pooled mortality rate was 4.6 x 100 patient-years (95% CI: 2.7, 6.8) equivalent to 5-year cumulative survival of 77.0%. Additionally, the pooled progression rate was 6.3 x 100 patient-years (95% CI: 4.1, 8.9) with estimated 5-year cumulative progression-free survival of 68.5%. CI: 2.7, 6.8) equivalent to 5-year cumulative survival of 77.0%. Additionally, the pooled progression rate was 6.3 x 100 patient-years (95% CI: 4.1, 8.9) with estimated 5-year cumulative progression-free survival of 68.5%.

Comments: Factors associated with poor prognosis in NAM include tumor thickness, tumor stage, ulceration, positive SLNB and trauma. The level of amputation was not significantly associated with decreased disease free survival.

Hence clinical examination and dermoscopy are crucial, along with complete excisional biopsy for sufficient tumor thickness and SLNB are key for complete diagnosis of NAM. While keeping oncologic safety foremost, preservation of functionality through conservative en bloc surgery should be aimed in non-invasive lesions and amputation reserved for cases with bone involvement and positive excision margins.

Chng WQ, Yew YW. Nail manifestations in atopic dermatitis: a systematic review. Int J Dermatol. 2019 Dec 3.

Nail involvement is not well-studied in atopic dermatitis (AD) but is believed to be more common than what is known. Hand involvement is usually higher in AD with nail unit affected via periungual inflammation and surrounding skin changes. A systemic review was done to understand and quantify its prevalence, either as a complication of AD or as a clue to its early diagnosis.

Patients with AD of any age were considered and defined either via the United Kingdom Working Party (UK WP) diagnostic criteria or the Hanifin and Rajka Criteria (HR Criteria). The prevalence of nail disease in AD patients was 11% (number of studies; [95% CI]: n = 12; [9.0–14.0%]). The most common changes being: Melanonychia, Pitting, Chronic paronychia, Hangnails.

The proposed mechanisms for nail changes being periungual inflammation, eczematous involvement of the nail matrix resulting in various onychodystrophies, exudative phenomena of nail bed and repetitive contact insults.

However significance between disease severity and presence of nail changes was not calculated due to insufficient data.

Comments: such nail changes will not come readily to a physician's mind since they are less prevalent compared to patients with other inflammatory dermatoses like psoriasis, whereby nails are affected in up to 50% of patients with psoriasis, and lifetime incidence of nail psoriasis approaches 90%. This review however provides reasons for clinicians to examine the nails more closely in patients suffering from atopic dermatitis for an early and accurate diagnosis.

Gupta, A., Stec, N., et al. (2019), The efficacy and safety of pulse vs. continuous therapy for dermatophyte toenail onychomycosis. J Eur Acad Dermatol Venereol.

Onychomycosis is a persistent fungal infection of the nails and adjacent skin. It is considered a chronic infection in susceptible populations with diabetes, poor peripheral circulation, HIV, immunosuppression, and the elderly.

Mycological and complete cure are two treatment endpoints used to evaluate cure. Mycological cure is defined by negative potassium hydroxide (KOH) preparation and fungal culture, whereas complete cure is defined as 100% clear nail in addition to mycological cure.

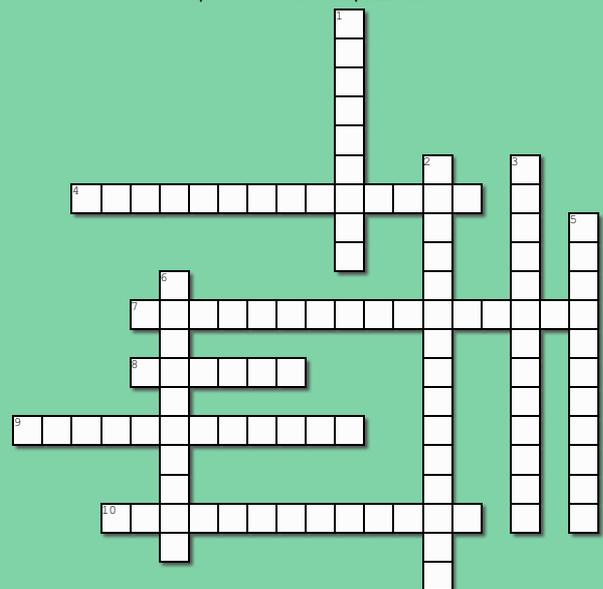
A Network meta analysis to compare pulse and continuous systemic therapy was done using RCTs of oral antifungal treatments for toenail dermatophyte onychomycosis in adult patients ≥18. The most successful treatments compared to placebo were continuous Terb250_24weeks and continuous Terb250_16weeks. The risk of experiencing adverse events in patients receiving any treatment (continuous or pulse regime) was not significantly different from that of placebo. All continuous and pulse regimens of terbinafine and itraconazole as well as weekly fluconazole showed similar likelihood in achieving mycological cure and were not significantly different from each other.

Comments: Use of continuous terbinafine 250mg for 24 weeks (double the FDA recommendations)—but not 12 weeks—was more likely to result in mycological cure than continuous itraconazole 200 mg for 12 weeks or weekly fluconazole (150, 300, 450 mg weekly) for 9-12 months. There were no significant differences in the adverse events encountered between any continuous and pulse regimens of terbinafine, itraconazole, and fluconazole.

Compiled By: Dr. Avneet Monga

NAIL MAZE

Complete the crossword puzzle below



Across

- Chronic hypoalbuminemia is associated with
- Idiopathic macular hyperpigmentation of skin and mucosa associated with longitudinal melanonychia called----- syndrome
- Ragged cuticle seen in Dermatomyosis is ----- sign
- Oral antifungal causing Melanonychia
- Seen in Marfan syndrome where length greatly exceeds breadth of nail

Down

- New sign for the diagnosis of glomus tumor on ultraviolet light dermoscopy
- Retained nuclei in distal matrix are known as
- Solitary, benign, skin-colored, asymptomatic periungual nodule; also called garlic clove tumor
- Proximal nail fold inflammation, xanthonychia, thickened proximal nail plate and interrupted nail growth point towards
- Boron based antifungal agent approved by FDA for onychomycosis in 2014

Compiled by Dr. Ridhima Lakhani.

ANSWERS TO NAIL MAZE VOL 8 ISSUE 2 OF ONYCHOSCOPE JULY 2019.

Across

1. Polyeponychia bulboides
4. Harlequin nail
5. Elkonyxis
6. Pseudomacrolunula
8. Ritonavir
10. Onychophosis

Down

2. Navellierungsprozess
3. Onychoptosis
7. Candy Cane
9. Vieira sign

Correct entries were received by Dr. Sandhiya Ramesh and Dr. Vishal Gaurav. Congratulations to the winners

Answer to Photoquiz-

Answer 1: Onychoscopy revealed a “moth-eaten” appearance of the lunula along with mild erythema. There was a reticular network of grey-white lines separated by areas of erythema. This is known as “spotted lunula” or “mottled lunula”. Spotted lunula is characterised by a patchy absence of the uniform whiteness, even described as a moth-eaten appearance. Spotted lunula has been described in association with nail psoriasis and alopecia areata.

The lunula is the half-moon shaped, most distal part of the nail matrix which is normally opaque white in color. The uniform whiteness of the lunula has been ascribed to various factors, including an immature nail keratin growing out of the proximal nail fold (loosely adherent to the underlying nail bed); or the relatively avascular, thickened distal matrix obscuring the underlying capillaries.

Answer 2: There was subungual hyperkeratosis, acanthosis of the nail bed epithelium, hypergranulosis, and focal lichenoid infiltration with pigment incontinence. The findings were suggestive of nail lichen planus.

Answer 3: The diagnosis in this case is nail lichen planus presenting as trachyonychia.

Lichen planus of the nails can involve any part of the nail unit viz nail matrix (proximal matrix involvement seen as nail plate abnormalities and distal nail matrix presenting as changes in the lunula), nail bed, nail folds, and the hyponychium. Distinct clinical variants of nail LP includes nail matrix LP, nail bed LP, trachyonychia, idiopathic atrophy of the nails and bullous-erosive LP.

Trachyonychia or rough nails is characterized by brittle, thin nails, with excessive longitudinal ridging as seen in this patient. It is seen in 10% of patients affected by nail lichen planus. It can be of two types: the severe, opaque type where the nails show diffuse ridging with lack of lustre, sandpaper-like surface; and the milder, shiny type where the nail plate shows numerous, small superficial pits, which impart a shiny appearance to the surface of the nail. Pterygium formation and scarring is rare in patients with trachyonychia caused by lichen planus.



Geetali Kharghoria, Chander Grover

ONYCHOCOON 2020

9th National Conference of the Nail Society of India (NSI)

Vishakhapatnam, Andhra Pradesh on 31st OCT- 1st NOV 2020

Coming soon

Editorial Board Members



Dr. Archana Singal



Dr. Chander Grover



Dr. Shikha Bansal