Fifth stage
Dermatology **Lec 9**
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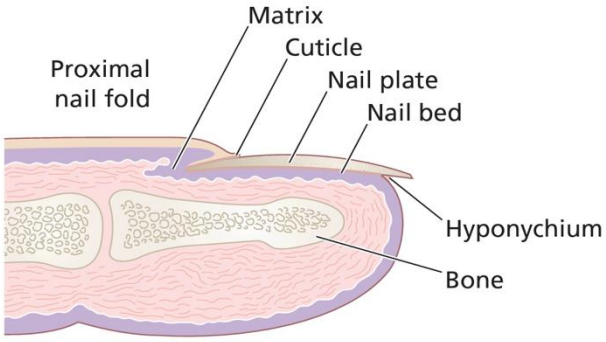
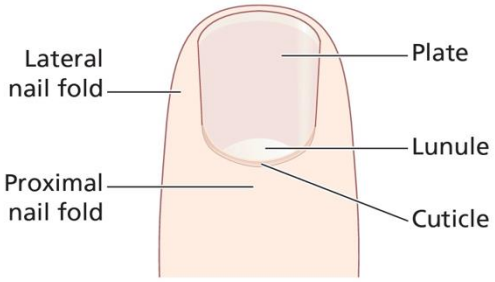
Nails Disorders

*The nail plate is formed from the nail matrix.
*Nail matrix lies in the nail fold on the back of the terminal phalanx.
*The matrix runs from the proximal end of the floor of the nail fold to the distal margin of the lunule.
*The cuticle acts as a seal to protect the potential space of the nail fold from chemicals and infection.
*The nails provide:
1. Strength and protection for the terminal phalanx.
2. Helps with fine touch.
3. Handling of small objects.
*The rate of growth vary from person to person: fingernails average **0.5–1.2** mm/week, while toenails grow more slowly.
*Nails grow faster in the summer, if they are bitten and in youth.
*They change with ageing from the thin, occasionally spooned, nails of early childhood to the duller, paler and more opaque nails of the very old.





Nail disorders associated with skin disease

Psoriasis

*Nail involvement in psoriasis varies from **10% to 50%**.

1. Onycholysis: psoriasis of the nail bed (hyponychium) causes separation of the nail from the nail bed results in accumulation of yellow, scaly debris that elevates the nail plate.

2. Nail deformity: fragmentation and crumbling due to extensive involvement of the nail matrix.

3. Pitting: nail plate cells shed in the same way as psoriatic scale is shed, leaving a variable number of tiny, punched out depressions on the nail plate surface.

4. Oil spot lesion: psoriasis of the nail bed may cause localized separation of the nail plate, Cellular debris and serum accumulate resulting in brownish-yellow color.

*Treatment:

-Difficult to treat.

-ILS.

-Cyclosporine, methotrexate, acitretin, or biologic agents.

Lichen planus

***Nail involved in **25%** of patients.

*reversible thinning of the nail plate with irregular longitudinal grooves and ridges.

*Dorsal pterygiumin which the cuticle grows forward over the base of the nail and attaches itself to the nail plate.

*Treatment:

-ILS.

-Severe cases respond to prednisone (20 to 40 mg/day).

Acute paronychia

*Rapid onset of painful, bright red swelling of the proximal and lateral nail fold.

*Superficial infections present with an accumulation of purulent material behind the cuticle.

*A diffuse, painful swelling suggests deeper infection

*Treatment:

-Determined by the degree of inflammation.

-Warm water compresses.

-Topical antibiotic.

-Oral anti staphylococcal antibiotics and/or deep surgical drainage.

Chronic paronychia

*Commonly involves the fingernails of adult women.
*Represents a contact reaction to irritants or allergens.
*Clinically characterized by inflammation of the proximal nail fold with erythema, edema and absence of the cuticle of one or several fingernails.
*Damage to the matrix results in nail plate surface abnormalities such as Beau's lines.
*Prolonged course with superimposed, recurrent, self limited episodes of acute exacerbation.
*Secondary infections with Candida spp. and Pseudomonas aeruginosa are common.
*Treatment:
-Avoidance of water and chemical exposure.
-Topical corticosteroids.
-Topical imidazoles.
-Topical antiseptics (e.g. 4% thymol in 95% ethanol).

Warts

*Periungual warts are common in nail biters, in whom they are multiple and involve several nails.
*Appear as keratotic papules or plague.
*Nail bed warts lead to uplifting of the nail plate with onycholysis.
*Squamous cell carcinoma can arise in or mimic a verruca; therefore, suspicious lesions must be further evaluated.

Fungal nail infections (onychomycosis)

*Tinea of the nails is called tinea unguium.
*T. rubrum and T. mentagrophytes are responsible for most fingernail and toenail infections.
*Nail infection may occur simultaneously with hand or foot tinea or may occur as an isolated phenomenon.
*patterns of infection:

1. Distal subungual onychomycosis:

-Is the most common pattern.
-The distal nail plate turns yellow or white, nail separate from the underlying bed, plate is crumble and fragment.

2. White superficial onychomycosis:

-The surface of the nail is soft, dry, and powdery and can easily be scraped away.

3. Proximal subungual onychomycosis:

-Transverse white bands begin at the proximal nail plate and are carried distally with outward growth of the nail plate.
-This is the most common pattern seen in patients with AIDS.

4. Candida onychomycosis:

*Caused by C. albicans, seen almost exclusively in chronic mucocutaneous candidiasis.
*Involves all of the fingernails.
*The nail plate thickens and turns yellow-brown.
*treatment:
-Oral agents: terbinafine, itraconazole, fluconazole.
-Surgical removal.
-Nonsurgical avulsion of nail dystrophies (40% urea cream).

Traumatic nail abnormalities

Onychotillomania

*Self induced nail abnormalities characterized by:
-Cuticle absent and proximal nail fold inflamed.
-Nail plate surface abnormalities, e .g .longitudinal central depression.
-Melanonychia.
-Hemorrhages and crusts.
*Include:
1. Nail biting.
2. Habit tic deformity affects the thumb and is due to the nervous habit of rubbing and pushing back the mid portion of the cuticle of the thumb with the index finger.
3. Nail destruction associated with psychiatric disorders. nstruments (scissors, clippers, etc.) are often utilized to destroy the nails.

Subungual Hematoma

*History of acute trauma.
*Purple–red to black in color.
*Typical dermoscopic features.
*Discoloration moves distally with nail growth.

Onycholysis

*Include:
-Distal.
-Diffuse.
*Due to:

-Mechanical (nail tools utilized to clean the nail plate free edge, artificial nails acting as a lever).
-Chemical (acrylic nails).

Pincer Nails

*****Nail bed pinching by overcurved nail plate.
*Toenails most frequently affected.
*Severe pain.
*Subungual exostosis should be excluded by X-ray examination.

Ingrown Toenails

*Teenagers and young adults affected.
*Congenital malalignment often present.
*Precipitated by improper nail cutting and hyperhidrosis.
*Painful inflammation of the lateral fold.
*Growth of granulation tissue.
*Treatment:
1. Prevention through patient education.
2. Granulation tissue may be prevented by topical antibiotics and topical corticosteroids or treated by cryotherapy, chemical cautery or electrodesiccation.
3. Chemical (88% phenol), laser or excisional surgical removal of the lateral matrix is advisable in severe cases.

Nail tumors

Benign Tumors

Pyogenic granuloma

*Bleeding angiomatous papulonodule.
*Periungual or subungual.
*Often traumatic.

Myxoid cysts (mucous cyst)

*****Most common nail tumor.
*Occurring in middle aged women.
*Located in the proximal nail fold of the fingernails, appear as small soft nodules that often spontaneously drain a viscous jelly like fluid.
These cysts are connected to the distal interphalangeal joint by a tract, and **osteoarthritis** of the distal joint is a frequent association.
*Treatment:

-Sclerotherapy,
-Cryosurgery,
-Intralesional corticosteroid injections.

Glomus tumor

*Arises from the neuromyoarterial glomus cells of the nail bed dermis.
*Associated with severe pain that radiates proximally and is often aggravated by physical or thermal stimuli (especially cold).
*Appears as a red–bluish nail bed macule visible through the transparent nail plate.

Malignant Tumors

Keratoacanthoma

*Painful subungual nodule.
*Rapid growth.
*Osteolysis on radiography.

Squamous cell carcinoma

*Most frequent malignant tumor of the nail apparatus.
*It most commonly affects the fingernails of middle aged men.
*Causative role for HPV16is present.
*Clinically, slowly growing periungual or subungual mass that may ulcerate and bleed.
*Periungual swelling and inflammation are often seen.
*Bony involvement may occur but metastases are extremely rare.

Melanoma

*Longitudinal melanonychia.
*Thumb is the most frequent site.
*Nail plate destruction.
*Hutchinson's sign.
*Amelanotic in 25% of cases.

The nail in systemic disease

*The nails can provide useful clues for general physicians.
1. Clubbing: is a bulbous enlargement of the terminal phalanx with an increase in the angle between the nail plate and the proximal fold to over 180◦.
*Associated with:
-Chronic lung disease.

-Cyanotic heart disease.
-Familial.

2. Koilonychia: a spooning and thinning of the nail plate.
-Physiologic in children.
-Iron deficiency In adults.

3. half-and-half nail: with a white proximal and red or brown distal half.
-Seen chronic renal failure.

4. Terry nails leukonychia: affects the whole nail except for a 1 to 2 mm distal band.
-Related to hypoalbuminaemia, as in cirrhosis of the liver.

5. Muehrcke nails: multiple transverse white bands parallel to the lunula
-Related to chemothrapy.

5. yellow nail syndrome:
*Changes begin in adult life.
*Peripheral lymphoedema is usually present and pleural effusions may occur.
*All 20 nails grow very slowly and become thickened and greenish-yellow, their surface is smooth but they are over-curved from side to side.

6. Beau's lines: transverse grooves which appear synchronously on all nails a few weeks after an acute illness, and grow steadily out to the free margin.
-Results from a temporary halt in the growth of the nail matrix.