NAILS IN HEALTH AND DISEASE.

Introduction:

The nails are present at the end of each finger tip on the dorsal surface.The main function of nail is protection and it also helps for a firm grip for holding articles.It consists of a strong relatively flexible keratinous nail plate originating from the nail matrix. Under the nail plate there is a soft tissue called nail bed.Between the skin and nail plate there is a nail fold or cuticle.Normal healthy nail is slight pink in colour and the surface is convex from side to side.Finger nails grow 1 cm in three months and toe nails take 24 months for the same.

Importance of nails in disease diagnosis:

The colour ,appearance,shape and nature of the nails give some information about the general health and hygiene of a person . Nails are examined as a routine by all doctors to get some clues about underlying diseases.Just looking at nails we can makeout the hygiene of a person.The abnormal nail may be congenital or due to some diseases.The cause for changes in the nail extend from simple reasons to life threatening diseases.Hence the examination by a doctor is essential for diagnosis .Some abnormal findings with probable causes are discussed here for general awareness.

1) Hygiene:-

We can make out an unhygienic nail very easily .Deposition of dirt under the distal end of nail plate can make a chance for ingestion of pathogens while eating.If nail cutting is not done properly it can result in worm troubles in children.When the worms crawl in the anal orifice children will scratch which lodges the ova of worms under the nails and will be taken in while eating.Prominent nail can also complicate a skin disease by habitual scratching.Sharp nails in small kids cause small wounds when they do feet kicking or hand waving.

2) Colour of the nails:-

a) Nails become pale in anaemia.

b) Opaque white discolouration(leuconychia) is seen in chronic renal failure and nephrotic syndrome.

c) Whitening is also seen in hypoalbuminaemia as in cirrhosis and kidney

disorders.

d) Drugs like sulpha group,anti malarial and antibiotics ect can produce discolouration in the nails.

e) Fungal infection causes black discolouration.

f) In pseudomonas infection nails become black or green.

g) Nail bed infarction occures in vasculitis especially in SLE and polyarteritis.

h) Red dots are seen in nails due to splinter haemorrhages in subacute bacterial endo carditis, rheumatoid arthritis, trauma, collagen vascular diseases.

i) Blunt injury produces haemorrhage and causes blue/black discolouration.

j) Nails become brown in kidney diseases and in decreased adrenal activity.

k) In wilsons disease blue colour in semicircle appears in the nail.

l) When the blood supply decreases nail become yellow .In jaundice and psoriasis also nail become yellowish.

m) In yellow nail syndrome all nails become yellowish with pleural effusion.

3) Shape of nails:-

a) Clubbing: Here tissues at the base of nails are thickened and the angle between the nail base and the skin is obliterated. The nail becomes more convex and the finger tip becomes bulbous and looks like an end of a drumstick. When the condition becomes worse the nail looks like a parrot beak.

Causes of clubbing:-

Congenital Injuries

Severe chronic cyanosis

Lung diseases like empyema,bronchiactesis,carcinoma of bronchus and pulmonary tuberculosis.
Abdominal diseases like crohn's disease,polyposis of colon,ulcerative colitis,liver cirrhosis ect...

Heart diseases like fallot's tetralogy,subacute bacterial endocarditis and ect..

b) Koilonychia:-

Here the nails become concave like a spoon.This condition is seen in iron deficiency anaemia.In this condition the nails become thin,soft and brittle.The normal convexity will be replaced by concavity.

c) Longitudinal ridging is seen in raynaud's disease.

d) Cuticle becomes ragged in dermatomyositis.

e) Nail fold telangiectasia is a sign in dermatomyositis ,systemic sclerosis and SLE.

4) Structure and consistancy:-

a) Fungal infection of nail causes discolouration,deformity,hypertrophy and abnormal brittleness.

b) Thimble pitting of nail is charecteristic of psoriasis ,acute eczema and alopecia aereata.

c) The inflamation of cuticle or nail fold is called paronychia.

d) Onycholysis is the seperation of nail bed seen in psoriasis,infection and after taking tetracyclines.

e) Destruction of nail is seen in lichen planus,epidermolysis bullosa.

f) Missing nail is seen in nail patella syndrome.It is a hereditary disease.

g) Nails become brittle in raynauds disease and gangrene.

h) Falling of nail is seen in fungal infection,psoriasis and thyroid diseases.

5) Growth:-

Reduction in blood supply affects the growth of nails. Nail growth is also affected in severe ilness. when the disease disappears the growth starts again resulting in formation of transverse ridges.These lines are called Beau's lines and are healpful to date the onset of illness.