Subject :- Dermatology

Topic :- Zinc Deficiency → level? normal: 80-120 µg/dl
↳ nuts (walnuts, almonds)

Aetiology -

Zn def. occurs in -

- Acrodermatitis enteropathica :- AR trait, dlt def. zinc transporter protein. → gene? / zinc binding ligand
- Other causes :- Dietary def (diet high in fibre, vegan diets, parenteral hyperalimentation) malabsorption & HIV infection

Clinical features :-

* Seen in infants being weaned off mother's milk and is characterised by :-

1) Dermatitis - erosive dermatitis, scaly plaques in the perioricial region (around mouth, nose, anus and genitals), acral areas and pressure points (occiput, malleoli and buttocks).
- Pustular & hemorrhagic paronychia.

2) Alopecia - non-scarring of the scalp

3) Systemic - apathetic look &

growth retardation & diarrhea.

R/:- Zinc supplementation (30-50 mg of elemental Zn given as 220 mg Zn sulphate) ⇒ given according to weight 1-3 mg/k

HP:- Skin biopsy typically shows:

- pallor of upper epidermis
- epidermal necrosis
- spongiosis
- parakeratosis
- dyskeratotic keratinocytes
- reduced granular layer

DD:- Atopic dermatitis
Seborrheic dermatitis
Psoriasis

Cutaneous manifestations of Vitamin-A (20-60 ug/dL) - DN

Essential for: normal epithelial differentiation, keratinization, immune function & vision.

Pathogenesis:- Vit. A def. results in ⇒ impaired diff. of epithelial cells.

↑ keratin production (hyperkeratinization)

Atrophy of sebaceous and sweat glands.

Dryness of skin

Impaired immunity & wound healing

1) Xerosis (Dry skin)

Rough, coarse texture
Fine scaling
Lose of normal skin sheen.
↑ skin fragility
Bony/hard prominences.
Sites :- Ext. surface of limbs
Trunk

2) Follicular hyperkeratosis
(Phrynoderma)

Excessive keratin accumulates around hair follicles, producing rough follicular papules.

C/F :-

→ numerous small, firm, hyperkeratotic papules.
→ skin feels like a 'nutmeg grater' or toad skin.
→ papules are skin colored, brown or pigmented.
→ central keratin plug often present.

Distribution :- Ext. aspect of arms
Thighs, buttocks, shoulders, forearms, legs.

3.) Generalized hyperkeratosis.

Persistent dry. causes :-
thickened skin
↑ scaling
rough texture
hyperpigmented keratotic plaques

4.) Ichthyosis - like skin changes:
Fish scale appearance
Polygonal scales
Dry thick skin
↓ skin elasticity

5.) Pigmentary changes:
hyperpigmentation
uneven pigmentation
dull appearance of skin

6.) Poor wound healing

Vit A
- collagen synthesis
- epithelial regeneration
- immune function

7.) 2° skin changes:-
Recurrent bacterial inf.
Impetigo
Folliculitis

8.) Hair
- dry
- brittle
- lusterless
- sparse

9.) Nail
- Brittle
- Slow nail growth
- Longitudinal &c.

Rx:- Vit A supplementation
1-3 million IU/day. for 3 days
then check levels.

Stages:- of nutritional disorder
1) ↓ intake
2) ↓ blood levels, no clinical manifestation
3) Clinical manifestation

Vitamin A Requirement:-
< 4 : 1000 IU/dL
> 4 : 5000 IU/dL

♀ Zn def. is associated
c Hep C virus.
↓
Necrolytic acral erythema (NAE