

Vitamins disorders

Objectives

- To know the sign and symptoms of some vitamins deficiency and excess
- managements of some vitamins disorders
- management of vitamin A deficiency

THIAMINE VITAMIN B1 deficiency

Sources

Meat,; fish; liver, legumes

CLINICAL MANIFESTATIONS

A severe deficiency of thiamine leads to the deficiency disease **beriberi**.

Deficiency of thiamine is associated with severely malnourished states, including malignancy and following surgery. The disorder (or spectrum of disorders) is classically associated with a diet consisting largely of polished rice (oriental beriberi)

- **Neurologic (dry beriberi):**
- irritability,
- peripheral neuritis,
- muscle tenderness,
- ataxia

Cardiac (wet beriberi):

- tachycardia, edema,
- cardiomegaly,

- cardiac failure

Treatment

Thiamine PO for 6 wk

RIBOFLAVIN (VITAMIN B2)

Milk, milk products, eggs,

Clinical features

- Cheilosis
- glossitis,
- keratitis, conjunctivitis, photophobia, lacrimation, marked corneal vascularization, seborrheic dermatitis.

NIACIN DEFICIENCY

Clinical features

Pellagra

- The classic triad of
- Dermatitis, The lesions on the hands often have the appearance of a glove, Similar demarcations may also occur on the foot and leg (pellagrous boot) or around the neck Casal necklace
- Diarrhea
- Dementia

PYRIDOXINE DEFICIENCY

Clinical features

- vitamin B6 dependence syndromes

- Convulsions in infants
- Peripheral neuritis
- Dermatitis
- Anemia.

Treatment

5-25 mg/day PO for deficiency states

100 mg IM or IV for pyridoxine dependent seizures

Vitamin C deficiency

Clinical features

Scurvy

- irritability,
- tenderness and swelling of legs,
- bleeding gums,
- petechiae, ecchymoses,
- follicular hyperkeratosis, and

poor wound healing

Vitamin A deficiency

Vitamin A deficiency

Is the commonest cause of blindness in developing Countries. It causes eye damage (xerophthalmia), which may progress from night blindness to corneal ulceration and scarring.

Sources

Liver, fish liver oils Dairy products, vegetables

Egg yolk, fortified margarine,

Clinical features

- dry, scaly, hyperkeratotic patches, commonly on the arms, legs, shoulders, and buttocks.
- Poor growth
- eye lesions An early symptom is delayed adaptation to the dark; later when vitamin A deficiency is more advanced, it leads to **night blindness**
- Photophobia
- Xerophthalmia
- (keratomalacia
- (Bitot spots (keratinized conjunctiva)
- (conjunctival xerosis)
- diarrhea, susceptibility to infections, anemia, apathy, mental retardation

A daily supplement of 1,500 µg of vitamin A is sufficient for treating latent vitamin A deficiency..

- Xerophthalmia is treated by giving 1,500 µg/kg body weight orally for 5 days followed by intramuscular injection of 7,500 µg of vitamin A in oil, until recovery

HYPERVITAMINOSIS A

Clinical features

- seborrheic cutaneous lesions
- increased intracranial pressure ; pseudotumor cerebri
- bone abnormalities; swelling of the bones
- enlargement of the liver and spleen;

Radiographs show hyperostosis affecting several long bones

Vitamin E deficiency

The best dietary sources of vitamin E are vegetable oils, seeds, nuts, green leafy vegetables, and margarine

Clinical features

- Vitamin E deficiency in premature infants causes thrombocytosis, edema, and hemolytic anemia
- Patients may have cerebellar disease ,manifested after 1 year of age (cholestasis)

Treatment

- in neonates, the dose of vitamin E is 25-50 units/day for 1 wk
- Children with deficiency as a result of malabsorption should receive 1 unit/kg/day,

Q 4 year old child presented with irritability and poor feeding and ataxic gait the mother state that these symptoms developed in last 3 months and she depend mainly on the polished rice to feed her child

What furtherer points in the history you should ask

What is the diagnosis

Q 9 month malnourished male child present with opacity in the Lt Eye with irritability and diarrhea

What the cause of the opacity?

What are the risk factors?