

# Chronic eating disorders

**This article contains probably doubtful information.**



The article "Chronic eating disorders" contains probably doubtful information. More detail information can be found on its talk page.

From a global perspective, malnutrition is one of the leading causes of morbidity and mortality in childhood. It is the result of either insufficient income (qualitatively and quantitatively) or the result of inadequate use. The diagnosis of malnutrition is based on an accurate analysis of food intake, anthropometric parameters, measurement of arm and skin circumference, careful physical examination and laboratory tests. Malnutrition can be acute or chronic, reversible or irreversible.

'*Acute eating disorders*' are usually abnormalities in water and mineral metabolism (diarrhea, etc.).

'*Chronic eating disorders*' are usually associated with variations in more than one nutrient.

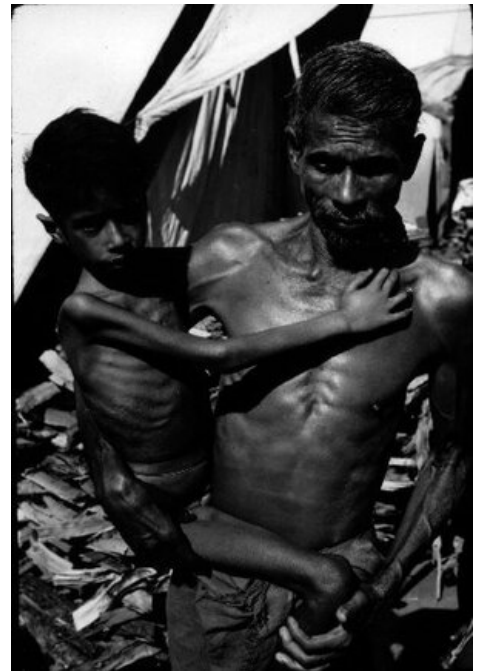
- in the body we have 2 main '*protein compartments*':
  - *somatic compartment* (muscles) - more affected by marasmus,
    - the state of its reserves is reflected by the circumference of the arm,
  - *visceral compartment* (organs) - more at kwashiorkor,
    - the state of its reserves is reflected by the measurement of plasma proteins,
- if the child's weight falls below 80% → malnutrition.

## Marasmus

- weight loss below 60% of age-appropriate weight,
- inadequate energy intake due to a balanced lack of food (lack of all nutrients),
- Albumin levels are reduced only slightly.

### Clinical picture

- chronic failure, loss of subcutaneous fat and skin turgor,
- the abdomen is arched or sunken,
- atrophic or hypotrophic muscles, "bone and skin" appearance,
- mostly without the presence of edema, dry and thin skin, thin, falling hair,
- hunger, weakness, apathy,
- in severe malnutrition, the following also occurs: bradycardia and hypotension, atrophied filiform papillae on the tongue, candidiasis stomatitis is common.
- chronic diarrhea is on the one hand the result of malnutrition → mucosal atrophy → secondary malabsorption → T and B immunodeficiency → higher susceptibility to viral, bacterial, parasitic and protozoal infections → chronic diarrhea (also a risk of excessive realimentation!).



Boy with marasmus.

## Kwashiorkor

- '*protein-energy malnutrition*' - protein deficiency is greater than calorie deficiency,
- the most serious and most common nutritional defect in developing countries - most often in Africa - children are weaned earlier (due to another child) and given a carbohydrate diet → lack of protein → albumin decreases → swelling occurs.

### Clinical picture

- growth failure, loss of muscle mass, skin changes (dermatitis, pigmentation disorders) and especially edema,
- appear from infancy to about 5 years,
- children are initially restless, later tired and somnolent,
- anorexia, vomiting and persistent diarrhea gradually appear,
- secondary immune disorders develop, which contribute highly to mortality,
- edema on DK, increases with the severity of protein malnutrition → up to generalized edema of the eyelids, scrotum,

- growth failure,
- weight 60 - 80% of weight appropriate to the given age,
- there is relatively enough subcutaneous fat, but there is a loss of muscle mass,
- *'laboratory tests'*: decreased plasma albumin and transferrin, decreased urinary urea excretion (insufficient protein intake) and hydroxyproline (growth disorders), increased methylhistidine excretion (muscle breakdown occurs), increased total body water, electrolyte depletion (potassium, magnesium), low levels of enzymes and lipids, metabolic acidosis, anemia, decreased insulin concentrations, increased cortisol, somatotropin,
- *'dif.dg'*: chronic infections, conditions associated with urinary and faecal protein loss and decreased proteosynthesis should be ruled out,
- *'therapy'*: restoration and maintenance of electrolyte balance, slow (!) realimentation having 3 phases:
  1. Stabilization - rehydration (oral is preferred), ATB (possible therapy of infection),
  2. We continue treatment of ATB, realimentation - proteins, energy (nasogastric tube is preferred over parenteral nutrition),
  3. Feed the child ad libitum, after the end of this phase, iron therapy follows (it must not come earlier, because iron would bind such an already low amount of transferrin),
- in the first stages it is necessary to intensively monitor electrolytes, heart function, edema, food intolerance, potassium levels (may decrease due to sudden hyperglycaemia),
- *'complications'* malnutrition: infections (gastroenteritis, pneumonia, sepsis); hypothermia; bradycardia (decreased cardiac output is a predisposition to heart failure); hypovitaminosis A → immune response disorders; psychomotor retardation; growth disorders.

## Malasimilation syndrome

- pathophysiological concept, which includes a disorder of nutrient digestion in the intraluminal phase, as well as a disorder of the small intestine at the level of enterocytes and in the transport phase,
- we distinguish between *'maldigestive'* syndrome and *'malabsorption'* syndrome,
- clinical symptoms are usually similar:
  - abdominal distension, muscle hypotension, paleness, growth disorders and weight retardation, bulky and frequent stools that smell (steatorrhea),
  - various specific conditions as a result of malabsorption (anemia, bleeding, rickets, tetany, etc.).

## Intraluminal phase - disorders

- impaired gastric secretion → lack of digestive juices,
- decreased pancreatic secretion (as a consequence of eg cystic fibrosis, Schwann-Diamond syndrome, chronic pancreatitis,
- defects of brush border enzymes (sucrose, lactase, enterokinase, lipase).

## Cellular phase - disorders

- resorption disorders as a consequence of enterocyte disorders and reduction of resorption area,
- lamblasis, celiac disease, bacterial infections, massive bowel resection, blind loop syndrome, congenital short bowel, immunodefects (eg Wiskott-Aldrich syndrome, hypogammaglobulinemia), CHT and Crohn's disease.

## Transport phase fault

- in case of lymphatic system involvement,
- in tumor blockade (lymphoma) and lymphangiectasia, also in portal hypertension,
- rarely: AMK transport disorder, abetalipoproteinemia, vitamin B12 malabsorption, glucose-galactose malabsorption, cystinuria, pancreatic enzyme defects.

## Links

## Source

- BENEŠ, Jiří. *Studijní materiály* [online] <<http://jirben.wz.cz>>

## Used literature

- HRODEK, Otto a Jan VAVŘINEC, et al. *Pediatric*. 1. vydání. Praha : Galén, 2002 ISBN 80-7262-178-5.
- ŠAŠINKA, Miroslav, Tibor ŠAGÁT a László KOVÁCS, et al. *Pediatric*. 2. vydání. Bratislava : Herba, 2007. ISBN 978-80-89171-49-1.



Little girl with kwashiorkor.

