

COPROCYTOLOGY

Mechanism of Digestion of Food of a Man in the Organism

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FOOD, getting into the mouth is mechanically reduced to fragments and moistened by saliva. Under the influence of the enzyme of ptyalin, being contained in the saliva, starch of a food lump is splitted up to the stage of dextrins. Then through the esophagus the food gets into the stomach, where proteins are split up to albumoses and peptons. The enzyme of lipase effects only emulgated fats (the fats of milk). Non-emulgated fats are digested in the duodenum. There, the bile and juice of the pancreas with the enzyme of lipase flow down and neutral fats are splitted into glycerin and fatty acids. Glycerol is easily absorbed in the duodenum, and fatty acids are absorbed in the small intestine. Under the influence of pepsin and hydrochloric acid in the stomach the solution of connective tissue takes place and muscular fibers begin to split into peptons and aminoacids. Their absorption takes place in the small intestine. There must not be muscular fibers both changed and not changed in the intestinal waste. Non-changed muscular fibres appear in faeces with the disorders of the stomach (hypo and an acid gastritis). The presence in the intestinal waste of muscular fibres, fatty acids and also soap and extracellular starch points to the disorder of the absorption in the small intestine. The presence of the extracellular starch points to the activation of fermental pro-

cesses with the superalimentation of a child with a loaf, gruel, mashed potatoes and characteristic of dyspepsia of cereal character. In the norm the starch of vegetal cellular tissue is contained in a membrane (intracellular starch). Under the influence of bacteria the membrane swells, splits and the starch is absorbed by bacteria. While intestinal waste peristaltically move to the anus the digestion of starch in the body of bacteria and in coprocytoscropy we do not see it. The large intestine is very rich in bacteria and the lower, the more. There are many iodophil bacteria in the cecum, which are fed by carbohydrates (starch). If the starch is kept it may point to :

- (a) quick evacuation of food,
- (b) abundant consumption of carbohydrates,
- (c) inflammatory process in the cecum, when there are not enough bacterial enzymes to digest starch.

The presence in the coprogramme of starch, iodophil flora, blastocystes hominis (special fungi, which live there where there is mucus) is a sign of catarrh of intestine. Cellular tissue is an indigested part of the vegetal elements and is digested in the small intestine only by the enzymes of bacteria.

The presence of a large number of cellular tissue can cause loose

stool (dyspepsia, enteritis). In the norm in the coprogramme there must be detritus, which is a granular decomposition of tissue and indigested cellular tissue, which are withdrawn from an organism. Under coprocytoscropy one can see pathological elements too : mucus, leukocytes, erethrocytes, epithelial cells. Homogenously mixed mucus with faeces occurs with enteritis. Mucus, as a single lump "sputum" points to colitic syndrome. Unchanged fresh leukocytes are characteristic of colitis and dysentery. If leukocytes are changed, they are from the upper part of the intestine and characteristic of enteritis. Leached erethrocytes are from the small part of the intestine. The epithelial cells can be only from the large part of the intestine with ascariasis, enterobiosis and also exudative diatesis, when inflammatory changes may occur in the intestine.

Thus under coprocytoscropy one can distinguish :

1. Oral syndrome—the presence of muscular fibres, cellular tissue (unchanged food) is in the coprogramme.
2. Gastrogenic syndrome—the presence of unchanged muscular fibers.
3. Duodenal syndrome—neutral fat.
4. Enteric syndrome—changed muscular fibres, fatty acids, soaps, extracellular starch.
5. Cecal syndrome—nondigested cellular tissue (intracellular starch), bacillus, coccus, clostridium, iodophil flora.
6. Colitic syndrome—epithelial cells, mucus, leukocytes, erethrocytes.

The correct reading of coprogramme helps doctors to diagnose gastrointestinal diseases. Coprogramme is a simple and valuable method of the examination of patients with gastrointestinal diseases. The dynamics of the coprogramme data enables us to see the efficiency of the treatment. □