

Biochemical examinations in psychiatry

Biochemical examinations do not yet have sufficient support for differential diagnosis. The diagnosis for functional psychoses is mainly according to the clinical psychopathological cases.

Examples of investigated values and their interpretation

- **Hypoglycemia** – it causes gloomy states with aggressive behaviour. E.g., after an overdose of insulin, after an alcoholic excess, when exhausted
- **Hyperglycemia** – coma or neuropathy, neurasthenic syndrome. E.g., starting diabetes
- **Increase in Na and Cl** – state of confusion. E.g., not enough fluids, especially in vascular dementia
- **Increase in ALT, AST** – hepatitis; neurasthenic syndrome of long duration. Acute intoxication with organic solvents or panther cap (*Amanita pantherina*); psychoses. Alcoholism.
- **Decrease in Fe²⁺** – e.g., hypochromic anemia; neurasthenic syndrome
- **Decrease in Cu²⁺** – e.g., hepatolenticular degeneration; (Wilson's disease)
- **Increase in Cu²⁺** – paranoid psychosis
- **Lithemia** – e.g., intoxication during treatment; dysarthria, tremor, diarrhea, then loss of consciousness may happen
- **HyperCHOL and lipids** – e.g., AT (ataxia-telangiectasia); neurasthenia, vascular dementia
- **Hyperuremia** – e.g., kidney failure; fatigue, drowsiness. Organic psychosyndrome in dialysis patients
- **Porphyryns** – acute intermittent porphyria; various symptoms (delirium, aggressiveness...)
- **Folate, B12** – e.g., congenital defect of folate; mental retardation, epilepsy
- **Creatine phosphokinase** – abnormal levels cause non-physiological muscle activity
- **ABR disorders** – e.g., vomiting in anorexia mentalis; alkalosis, hypokalemia, starvation
- **Neurotransmitter levels:**
 - **hydroxyindoleacetic acid - serotonin metabolite**
 - **methoxy-hydroxy-phenylglycol - NA metabolite**
 - decrease in levels in paranoid depression
 - increase in MHGP in manic phase
- **Hormone levels:**
 - **prolactin** – its secretion is reduced by dopamine, its level is increased by some neuroleptics (phenothiazines)
- **Functional tests:**
 - **dexamethasone test** – drop in cortisol does not occur in people with periodic depressive disorder
 - **TRH test** – after application of TRH, there is a smaller rise in TSH in periodic depression than in healthy subjects

Links

Source

- BENEŠ, Jiří. *Studijní materiály* [online]. ©2010. [cit. 8.1.2010]. <<<http://jirben.wz.cz>>>.