

10. Summary

Analysis of influence of pharmacotherapy on some internal environment parameters

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Background: Electrolyte disturbance are frequent effects affected at patients. They could be evoked by the pharmacotherapy, but also by other factors connected with a patients health state.

Aim: Consider the clinical significancy of effect of pharmacotherapy on electrolyte management of organism.

Methods: From dismissory reports of 214 patients (114 women and 100 men, mean age 71,8 years) was noted biochemical parameters measured at entrance and pharmacotherapy used by patiens before entrance into a hospital. Clinical significance was valuated on the basis of Pearson Chi-Square (χ^2) and through the use of calculation of odds ratio (OR) and 95% confidence interval.

Conclusions: Medians of biochemical parameters determined at entrance was: 141,0 mmol/l Na⁺, 4,4 mmol/l K⁺ a 105,0 mmol/l Cl⁻. The most frequent electrolyte disturbance was hyperchloremia (29,1% of patients), further then hyponatremia (20,1% of patients) and hypokalemia (12,3% of patients). Hypernatremia was noted at 8,9% of patients, hyperkalemia at 6,1% of patients and hypochloremia at 11,3% of patients. Clinically significant relation was analysed between exposure to potassium-sparing diuretics and hyponatremia (χ^2 0,011). Statistical significance between medicine exposure and hyperkalemia was confirmed at substances from the group of inhibitors ACE (χ^2 0,025), potassium-sparing diuretics (χ^2 0,000), non-steroids antiinflammatory (χ^2 0,042) and potassium salts (χ^2 0,011). Association was also discovered between dosing of potassium salts and hypernatremia (χ^2 0,030) and further between dosing of loop diuretics and hyperkalemia (χ^2 0,001). However these risks at quoted substances are not presented at literature (SPC, AISLP 2006.1, Micromedex, 2006).

Result: Non-physiology values of biochemical parameters was measured at many patients. Doctors, when prescribing diuretics, often expect their potassium depletion effect, and simultaneously prescribe the supplements of potassium, but in many cases inappropriately.