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Introduction:

Diabetic ketoacidosis in children (DKA) is characterized by the existence of some hydroelectrolytic disorders particularly serious which not being founded and treated on time endangers life.

Methods:

N=116, from the ED, ICU and endocrinology for the period of 15.01.2014 and 01.09.2016. Two lots: I lot 48 children with DKA who have been under treatments in the ED of pediatric resuscitation and the II lot 68 children control group who have been under the treatment in the department of endocrinology. They have been evaluated primary and secondary emphasizing the signs of dehydration, blood sampling for determining the ions of K, Na, Cl, P, acid-base balance, glucose, urinary ketones.

Results:

Children were transported by the emergency in proportion of 81%. According to age children > 9 have predominated, gender: b n = 60; g n = 56 (p <0,001). Degree of dehydration: 42 children mild dehydration under 4%, in 58 cases we founded moderate signs of dehydration 4-7%, and children with serious signs of dehydration -16. We have founded the level of K ions and of ABB while being hospitalized and in dynamics. In lot I, we registered values of K under 3 mmol/l, in comparison with the values of 3,5mmoles/l of K in the control lot (p =0,001). They received infusion of crystalloid and K supplements, the necessary volume and quantity of K was calculated separately according to the known formula. After the infusion– in children from the I lot: the initial values of Ph $7,09 \pm 0,07$; pCO₂ $11 \pm 1,5$; BE –(-) $18,7 \pm 0,9$ had a tendency of amelioration after 30 minutes in 6 cases, in 19 cases just after 2 hours an amelioration, in 16 cases after 12 hours, simultaneously in other 7 cases the amelioration of the described above parameters was observed after 24 hours. No child needed the administration of Na bicarbonate for the normalization of metabolic acidosis. The average time of treatment $13 \pm 0,9$ days in I lot, in the control lot $7 \pm 0,7$ (p= 0,03).

Conclusions:

1. Early administration of infusion with the goal of hydroelectrolytic and acid-base balancing lead to a more rapid amelioration of the hemodynamics in children with ketoacidosis and reduces the time of being in-patient unit.
2. Correct administration of infusion therapy in ketoacidosis eliminates the necessity of Sodium bicarbonate administration with the goal of metabolic acidosis.