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ACUTE PANCREATITIS IN TWO CHILDREN WITH DIABETIC KETOACIDOSIS

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The diabetic ketoacidosis (DKA) is a frequent severe condition occurring in children with diabetes mellitus type 1 (DM1), occurring especially at disease onset, but in the later course of the disease as well. It is connected with highly elevated glucose, ketonemia, ketonuria and blood ketosis with $\text{pH} < 7.3$. Together with typical DKA signs like dehydration, Kussmaul respiration, severe abdominal pain and emesis mimicking “acute abdomen” are also common clinical symptoms. The same signs appear in the acute pancreatitis, which may increase risk of organ failure and even death. Association between acute pancreatitis and diabetic ketoacidosis very rare, however, it is really relevant to consider the occurrence of this complication. Testing for acute pancreatitis is not included into DKA treatment recommendations so far. We present two cases of diabetic children who developed acute pancreatitis in the course of diabetic ketoacidosis.

Patient 1: 14 years old girl, diagnosed with diabetes type 1 three years ago was admitted with diabetic ketoacidosis. So far, she was poorly metabolically controlled, and she had ketoacidosis several times before. On admission to the hospital she had an acute abdominal pain, emesis and lack of appetite. She was also dehydrated. Her blood tests showed hyperglycaemia and the glucose was found in the urine. Her pancreatic enzymes were checked on the order of the doctor on duty. Serum lipase was over 8 times higher and pancreatic amylase was over 3 times higher than upper limit of the norm. In USG her pancreas was enlarged. Clinical and radiology evidences indicated the acute pancreatitis co-existing with diabetic ketoacidosis. The treatment included typical DKA treatment with rehydration, electrolytes supplementation and intravenous insulin with modification due to acute pancreatitis, antibiotic was used also. Her condition improved slowly, she required strict pancreatic diet, with supplementation of pancreatic enzymes for several weeks.

Patient 2: 8 years old girl, suffering from DM1 for 1.5 years, was admitted to the Paediatric Department with DKA, in diabetic coma, without verbal contact. No history of abdominal pain with emesis was confirmed. In clinical examination she presented with tachycardia and dehydration. Her pancreatic enzymes were greater than over 8 times normal. Her pancreas was hyperechoic in USG. Criteria of acute pancreatitis were confirmed. After 4 days of ceasing oral feeding, antibiotics, rehydration and intravenous insulin therapy her condition has improved.

Acute pancreatitis is life-threatening disease, which is uncommon disease in children, DM1 patients among them. Symptoms are very similar to these appearing in typical diabetic ketoacidosis and this may cause misdiagnosing. We wish to propose with this case reports the need for checking the level of pancreatic enzymes – lipase and amylase to the basic tests for patient with diabetic ketoacidosis, in particular cases with ultrasonography examination, if needed. Screening for acute pancreatitis could help paediatricians in detecting this complication earlier, in understanding severe clinical condition of the patients, in introducing the appropriate treatment and avoiding severe morbidity.