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A CASE REPORT OF TYPE 1 DIABETES MELLITUS COEXISTING WITH JUVENILE IDIOPATHIC ARTHRITIS

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Introduction. Type 1 diabetes mellitus (T1D) commonly co-occur with other autoimmune diseases, most often with autoimmune thyroid disease and celiac disease and there are screening recommendations for these disorders. Other autoimmunities, juvenile idiopathic arthritis (JIA) among them, are definitely less frequent and less known. We present two cases of diabetic patients, treated with continuous subcutaneous insulin infusion - CSII), diagnosed with JIA (first patient - after 11 years of insulin treatment and the second one - at the onset of diabetes). We point out the difficulties of multimorbid patients' treatment.

Case report. *First case:* In October 2019 16-year-old girl, who was diagnosed with diabetes T1 for 11 years (diabetes onset in 2008, treated with CSII), was admitted to the rheumatology clinic because of chronic pain of varying severity of multiple joints (knees, feet, hips, shoulders, arms, temporomandibular joints) persisting from 2 months. She has been treated with NSAIDs. On the basis of the overall clinical picture and the results of laboratory findings, she has been diagnosed with JIA. Treatment with small dose of steroid and methotrexate was started (modified to subcutaneous administration due to poor tolerability of oral treatment). In January 2020 sulfasalazine was started because of the continuing active inflammatory process. Three months later, due to persistently active inflammatory process and ineffectiveness of combined treatment, she was qualified to biologic therapy. Steroids are used all the time if changing schemes. Her metabolic control of diabetes during JIA treatment deteriorated much at first. Gradually, with very intensive diabetic care, continuous glucose monitoring use and psychological welfare, improvement in HbA1c from 10.23% to 7.2% is observed.

Second case: In October 2019 one year and six months old girl was admitted to the clinic because of low-grade fever, rhinitis and cough from two days. On admission hyperglycaemia of 711mg/dl (39.5 mmol/L), HbA1c of 10,63% and ketoacidosis were reported. T1D was diagnosed. Treatment included insulin i.v. therapy and the blood electrolytes supplementation. From the second day of hospitalization subcutaneous insulin therapy with personal insulin pump and diabetic diet were applied. During hospitalization we observed swelling of interphalangeal joints of the left hand and of the right knee joint (with limb-sparing gait). Treatment with the NSAID orally, topically and intravenous antibiotic therapy was started. Due to the spreading inflammatory process a small dose of steroid was used - with improvement. The girl was diagnosed with JIA. The treatment with small dose of oral steroid was maintained. During the follow-up visit in May 2020, further improvement was noted, the discontinuation of steroid and the inclusion of methotrexate in the treatment was recommended. During the JIA treatment, the glycaemia values were kept within acceptable limits (HbA1c of 7,18%-7,32%).

Conclusions. Diabetologist should be aware of other autoimmune diseases that could affect their patients, also rheumatoid ones. These co-occurring diseases impair the metabolic control of diabetes and harden the insulin treatment. Modern diabetic technologies like personal insulin pumps and continuous glucose monitoring systems help to adjust insulin dosing and keep metabolic control during active inflammatory arthritis process and the necessity of steroid use in different schemes.