

ABSTRACT

DM is metabolic disorder characterized with hyperglycaemia at absolute shortage of endogenous insulin (**DM1T**), or at its relative shortage (**DM2T**).

DM1T is a symptom of B-cell destruction in islets of pancreas Langerhans that occurs mostly on autoimmune basis. Lack of insulin results in disorder of glucose use and in increased catabolism of fat and proteins. The result of this disorder is hyperglycaemia, glycosuria, polyuria, thirst, eventually ketoacidotic coma.

DM2T which prevalence is continuously increasing represents significant medical, social and economic problem. DM2T develops due to insulin resistance and later due to insufficient insulin secretion after each meal. Insulin resistance mostly develops in connection with obesity. In the course of disorder the defect of insulin secretion gradually worsens and micro and macro vascular complications develops that are the most frequent cause of death of patient suffering from the disorder.

Diabetes treatment is of complicated and complex nature that has to be based on simultaneous intensive therapy, prevention, collaboration with patient, education, individual adjustment of treatment and therapeutic goals. The Czech Republic belongs to a few countries where diabetology as an independent branch of medicine exists.

The goal of treatment is to ensure good quality of life to a patient and to prevent development of long-term complications.

DM1T treatment: After diagnosis is assessed substitution treatment with insulin is immediately commenced. Use of insulin analogs has been spreading recently. Individual check of glycaemia and continuous adjustment of insulin doses according to actual glycaemia, food intake and physical activity is condition of successful intensified treatment with insulin. Inevitable part of the treatment is the effort to normalize other risks, namely treatment of increased blood pressure, dyslipidemia and regular screening of long-term blood vessels complications.

DM2T treatment: Diet and movement treatment, peroral anti-diabetic drugs (PAD).

PAD can be divided to: biguanides, glitazones, sulfonylurea derivates, glinids, incretin analogs and mimetics (brand new group of medicines with complex effect), α -glucosidase inhibitors.

None of PAD having been commonly used up to now nor insulin treatment do not efficiently prevent progression of B-cells failure and worsening of glucoregulating disorder during the course of disease and also do not have any specific properties preventing development of blood vessel complications.

Development of new, efficient and save drugs is of top importance.